AFSC 33S
COMMUNICATIONS OFFICER

Basic

Senior

Master

CAREER FIELD EDUCATION
AND TRAINING PLAN

AFSC 33S
CAREER FIELD EDUCATION AND TRAINING PLAN
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AFSC 33S
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PART I

Preface

1. The evolving Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) and Information Operations environments pose significant challenges to airmen at every level. Declining financial resources, expanding mission diversity and ever-changing technologies in the Air Force are significantly impacting our most valuable resource--people. Overcoming these challenges requires a clear vision, thoughtful preparation and a steadfast commitment to education and training as we prepare for future missions while supporting today's operational requirements. Officers in our Air Force Specialty (AFS) and civilians in equivalent occupational series and grades must commit to improving their knowledge and expanding their skill sets to continue providing first-rate C4ISR and information operations capabilities to facilitate warfighter success.

2. The Chief of Staff's intent is that we transition the way we train, educate, promote and assign our Total Force (see section E for the Chief's sight picture). This effort is Force Development and it applies equally to all personnel. The goal in implementing a deliberate Force Development construct is to make the investment in all AF personnel to better prepare our force for the future. Every aspect of the new plan has one common goal: to continue developing professional airmen who instinctively leverage their respective strengths together. Force Development focuses on training, education and experience, especially how people are assigned to get that experience. The development programs are a new concept and are more than just PME. They couple the professional military education experience with advanced education that will prepare AF personnel with the practical knowledge and skills required to be effective in today's expeditionary air and space force and better face the challenges of tomorrow.

3. This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document identifying life cycle education and training requirements, training support resources, and minimum requirements for the professionals who comprise our communications specialty. The CFETP outlines training communications officers should receive to be effective and defines skills that will help prepare them to progress throughout their careers. More importantly it provides the road map for 33S professionals to continue their critical contributions to the warfighter. The CFETP documents the career field training program and consists of two parts. Leadership must use both parts to plan, manage and control training within the career field.

> NOTE: Civilians occupying equivalent positions may use the Career Training Guide in Part II Section A for their duty position qualification training. Civilians in Communications & Information Career Program (CICP) covered positions will refer to the CICP Master Development Plan (MDP)

3.1. Part I, Section A, *General Information,* provides information necessary for overall management of training in the career field. It contains administrative details and explains the purpose and use of the CFETP for commanders, supervisors, trainers and communications officers at all levels. Section B, *Career Field Progression and Information*, provides career field progression information, duties and responsibilities, training strategies and a graphical depiction of the Career Field Pyramid. Section C, *Proficiency Training Requirements*, associates each career progression level with specialty qualifications (knowledge, education and training). Section D, *Resource Constraints*, identifies known training resource constraints e.g., funds, manpower, equipment and facilities.

3.2. Part II, Section A, *Course Training Standards*, identifies the Course Training Standards (CTS), technical references to support training, Air Education and Training Command (AETC) conducted training and correspondence course requirements. This section also contains the Career Training

Guide (CTG) identifying tasks and skills required of 33S officers. The CTG serves as a guide for continuing and recurring training. Section B, *Training Course Index,* provides resources available to support training. Section C, *Support Materials,* identifies available support materials required to support proficiency training. Section D, *MAJCOM Unique Requirements*, identifies MAJCOM unique training requirements that supervisors can use to determine additional training required for the associated qualification needs. Commanders, supervisors and trainers at the unit level will use Part II to identify, plan and conduct training commensurate with the overall goals of this plan. Section E, *Additional Information*, identifies important information specific to the specialty.

4. This CFETP provides a road map for effective and efficient training of 33S professionals. This plan enables our Air Force specialty to train today's work force for tomorrow's challenges.

PART I

Abbreviations/Terms Explained

This section provides a common understanding of the terms that apply to the Communications Career Field Education and Training Plan.

Aerospace Communications Expertise (ACE) Initiative. A career development strategy for new communications officer accessions that focuses on early exposure to communications operations. Typically, initial assignments are in base level communications units, MAJCOM Network Operations and Security Centers (NOSC) and deployable communications units.

Air and Space Basic Course (ASBC). This course is the first level of Professional Military Education and is taught at Maxwell AFB. Course length is four weeks and is mandatory for all active duty officers within the first year of commissioned service. Civilian personnel will attend during their three-year Palace Acquire intern training program. ANG and AFRC personnel are not required to attend ASBC.

Air Force Career Field Manager (AFCFM). Representative appointed by the respective HQ USAF Deputy Chief of Staff or Under Secretary to ensure assigned AF specialties are trained and utilized to support AF mission requirements.

Air Force Institute for Advanced Distributed Learning (AFIADL). This organization resulted from the merger of the Air Force Distance Learning Office and the Extension Course Institute. AFIADL's goal is to promote, deliver and manage advanced distributed learning for our Air and Space Forces.

Air Force Specialty (AFS). A group of positions (with the same title and code) that require common qualifications and perform standardized duties across the Air Force.

Career Field Education and Training Plan (CFETP). A comprehensive, multipurpose document that encapsulates the entire spectrum of career field training. It outlines a logical growth plan that includes training resources and is designed to make career field training identifiable while eliminating duplication.

Career Training Guide (CTG). Subsection of the CFETP used to identify tasks or capabilities expected of a career field. It is intended to serve as a guide of tasks, knowledge and concepts that applicable career field personnel should strive to develop throughout their careers.

Communications Battlespace Management Course (CBMC). Formerly Advanced Communications Officer Training (ACOT). A formalized communications course attended by fully qualified mid-career officers with between 8 and 13 years of commissioned service (or between 11 and 17 years of service for officer grade civilian equivalents). The course is aligned under the 333rd Technical Training Squadron at Keesler AFB.

Communications Officer Fundamentals Exportable (COFE) Course. The COFE course is a voluntary preparatory course for officers preparing to attend ECOT. This course provides an overview of the fundamentals of communications, computers and networks that will be studied in-depth at ECOT.

Computer Based Training (CBT). A method for training whereby the student learns via a computer terminal. It is an especially effective training tool that allows students to practice applications while learning.

Continuation Training. Additional advanced training that exceeds the minimum upgrade training requirements and emphasizes present or future duty assignments.

Course Training Standard (CTS). Identifies the tasks from the CTG that are to be trained by an Air Education and Training Command (AETC) schoolhouse. The CTS serves as the career field's contract with the schoolhouse.

Expeditionary Aerospace Force (EAF). The EAF concept is how the Air Force organizes, trains, equips and sustains itself by creating a mindset and cultural state that embraces the unique characteristics of aerospace power – range, speed, flexibility and precision – to meet the national security challenges of the 21st Century.

Expeditionary Aerospace Force Communications Officer Training (ECOT). A mandatory initial skills and AFSC awarding communications course for new communications officer accessions. ECOT is aligned under the 333rd Training Squadron at Keesler AFB. The primary focus of the course is to provide an in depth coverage of communications systems within the context of integrating the C4ISR disciplines into the EAF environment and increase the competence/confidence levels of new communications officers employed in deployed AEF operations.

Exportable Training. Training provided via computer-assisted, paper-text, interactive video or other medium.

Field Operating Agency (FOA). Subdivisions of the Air Force directly subordinate to a headquarters US Air Force functional manager. A FOA performs field activities beyond the scope of any of the MAJCOMs.

Field Training. Technical, operator and other training that either a field training detachment or mobile training team conducts at operational locations on specific systems and associated direct-support equipment.

Force Multiplier. An attribute of a resource allowing employment of the resource in a manner that multiplies the effectiveness of other resources.

Instructional System Development (ISD). A deliberate and orderly (but flexible) process for planning, developing, implementing and managing instructional systems. It ensures personnel are taught in a cost efficient way the knowledge, skills and attitudes essential for successful job performance.

Intermediate Service School (ISS)/ Intermediate Developmental Education (IDE). Intermediate level of PME. Prepares field grade officers and civilian equivalents to assume positions of higher responsibility within military and government arenas. Can be completed via correspondence, seminar or in-residence.

Joint Specialty Officer (JSO). Designation awarded to a field grade officer who has completed specific PME requirements, successfully completed a tour in a valid joint position and was selected as a joint specialty officer by a convening authority.

Major Command (MAJCOM). A MAJCOM represents a major Air Force subdivision having a specific portion of the Air Force mission. Each MAJCOM is directly subordinate to HQ USAF. MAJCOMs are interrelated and complementary, providing offensive, defensive and support elements.

MAJCOM Functional Manager (MFM). Representative appointed by the MAJCOM who directs the development and coordination of courses and standards for training and educating personnel in a specific career field at the MAJCOM level.

Occupational Series (OCSRS). The Office of Personnel Management (OPM) publishes occupational series descriptions and classification guides, used by Civilian Personnel Flights (CPFs) to classify individual position descriptions.

Occupational Survey Report (OSR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFSC.

Officer Technical Refresh (OTR). AFCA sponsored program providing technical training outside ECOT and CBMC. Training is commercially procured and provided regionally at sites with high concentrations of communications professionals. TDY costs are unit funded. Program focuses on communications officers, officer-grade civilian equivalents, and ANG/Reservists mobilized on active duty or serving on extended active duty tours.

Oracle Training Application (OTA). A HQ AFPC/DPPAT managed computer support system that links Air Force units or activities. This system is used for planning, controlling and funding formal training throughout the Air Force, including the MAJCOM TDY-to-School Program.

Resource Constraints. Resource deficiencies (such as money, facilities, time, manpower and equipment) that preclude desired training from being delivered.

Senior Service School (SSS)/ Senior Developmental Education (SDE). Highest level of PME. Educates senior officers and civilian equivalents to lead at the strategic level in the employment of aerospace forces, including joint, combined and coalition operations in support of national security. Can be completed via correspondence, seminar or in-residence.

Special Duty Assignment (SDA). A duty assignment outside an individual's primary career field, such as Squadron Officer School instructor.

Squadron Officer School (SOS). Second level of PME. Stresses leadership and teamwork, essential tools for developing career Air Force officers at the grade of captain. Can be completed via correspondence or in-residence.

Systems Telecommunications Engineering Management (STEM). Blueprint of base and MAJCOM systems inventories, requirements, costing and implementation guidance for comprehensive planning of the communications infrastructure into the next century. This blueprint is a major milestone in providing a shared resource both the planners and implementers use to fund and install the latest technological support for each unique mission. Communications systems engineers provide technical engineering planning services in support of communications systems and base infrastructures.

Systems Telecommunications Engineering Manager Base-Level (STEM-B). Maintains technical responsibility for engineering and management and assists the base CSO in system engineering and configuration control.

Systems Telecommunications Engineering Manager Command-Level (STEM-C). Provides technical assistance to the MAJCOM and coordinates with STEM-Bs on future MAJCOM mission changes, programs and efforts at the MAJCOM level.

Systems Telecommunications Engineering Manager - Joint (STEM-J). Assigned to combatant commanders, joint staff and Defense Information Systems Agency to promote interoperability by providing an interface between those activities and Air Force MAJCOMs and bases.

Utilization and Training Workshop (U&TW). A forum of the AFCFM, MFMs, subject matter experts (SME) and AETC training personnel that evaluates career field training requirements.

Wartime Tasks. AFCOT training requirements remain unchanged during wartime. In response to wartime resource requirements, schoolhouse throughput could be accelerated by lengthening the training days and holding training on weekends. Regardless, all course instruction requirements will be met.

PART I SECTION A

GENERAL INFORMATION

PART I

Section A - General Information

1. Purpose of the CFETP. The CFETP provides the information necessary for AFCFM, MFMs, training managers, supervisors and trainers to plan, develop, manage and conduct an effective and efficient career field training program. The plan outlines the training individuals in this AFS should receive to support their professional development and defines the skills necessary to progress throughout their careers. For purposes of this plan, training is divided into initial and advanced skills training and supplemental and continuing education. Initial skills training is mandatory training for award of the AFSC. Initial and advanced skills training and supplemental education is conducted by the 333rd Training Squadron (TRS), Keesler AFB, MS. Continuing education is acquired through advanced degrees, commercially procured training, the Officer Tech Refresh program, on-the-job training and specialized training as required by MAJCOM or units. The CFETP serves several purposes:

1.1. Serves as a management tool to plan, develop, manage and conduct a career field training program.

1.2. Identifies training requirements for award of the AFS and recommends training throughout each phase of an individual's career.

1.3. Lists education and training courses available in the specialty and identifies potential sources.

1.4. Identifies, *in Part II, Section D, Resource Constraints,* major resource constraints impeding implementation of the desired career field training program.

1.5. Encapsulates the entire spectrum of training requirements for the communications career field, using a building block approach (simple to complex). Included in this spectrum is the strategy of when, where and how to meet the training requirements.

2. Uses of the CFETP. The CFETP is maintained by the 33S AFCFM, HQ USAF/ILCX. MFMs and AETC training managers review the plan annually to ensure currency and accuracy and forward recommended changes to the AFCFM. Using the list of courses in Part II, they determine whether duplicate training exists and take steps to eliminate/prevent duplicate efforts. Career field training managers at all levels use the plan to ensure a comprehensive and cohesive training program is available for each individual's career progression.

2.1. AETC training personnel develop/revise formal resident and exportable training based upon requirements established by the users and documented in the CTS. They also develop procurement and acquisition strategies for obtaining resources needed to provide the identified training and continuing education.

2.2. MFMs ensure MAJCOM unique training programs complement the CTG and CTS's. MAJCOM unique training requirements are satisfied through On-the-Job-Training (OJT), resident training, contract and commercial training, exportable courseware, seminars and military exercises. MAJCOM developed training to support this AFS must be identified for inclusion into this plan.

2.3. Unit commanders ensure their training programs complement the CTG and CTS's. Unit specific training requirements can be satisfied through OJT, resident training, contract and commercial training, exportable courseware, seminars and military exercises. Commanders will coordinate these requirements with the MFMs and AFCFM for possible inclusion in this plan.

2.4. Individuals complete training recommendations specified in part II of this plan.

2.5. Personnel can submit recommended CFETP improvements/corrections to the AFSC Training Manager at 333 TRS/TRR, 600 First Street, Keesler AFB MS 39534-2494 or call DSN 597-5379.

2.6. Coordination and Approval of the CFETP. The AFCFM is the approval authority. MAJCOM representatives and AETC training personnel coordinate on the career field training requirements. The AFCFM will initiate an annual review of this document by AETC and MFMs to ensure currency and accuracy. Using the list of courses in Part II, the AETC training manager will eliminate duplicate training.

3. Utilization and Training Workshop Overview

3.1. Purpose of the U&TW. The AFCFM in partnership with the AETC Training Pipeline Manager (TPM) determines the need for a U&TW (usually annually) and decides on the objectives. As a minimum, the U&TW will lead to improved training through a review and evaluation of currently provided training and known requirements. The U&TW serves as a training forum and a quality control mechanism.

3.1.1. The U&TW serves as the forum to determine education and training requirements by bringing together the expertise to create and revise training standards, set responsibilities for providing training and establish the most effective blend of formal, OJT, AETC provided, AF provided, commercially provided, CBT provided and web based training.

3.1.2. As a quality control mechanism, the U&TW ensures the validity and viability of training.

3.2. U&TW Preparation. Thorough coordination and planning is essential to conducting an effective U&TW. Coordination begins with the decision to conduct a U&TW and includes development of a draft CFETP.

3.2.1. Primary participants include AFCFM, AETC TPMs, MFMs, AFS SMEs and appropriate Air Staff and Secretariat representatives.

3.2.2. Optional participants include AF Occupational Measurement Squadron (for occupational survey reports and briefings), AFPC Education, Training and Classification representatives, Instructional Technology Unit representatives (to address media selection decisions), Air Force Institute of Technology representatives and Air Force Communication Agency representatives.

3.3. Required Information.

3.3.1. Specialty Description. AFMAN 36-2105, *Officer Classification*, contains the official AFS description for the 33S career field, which is included in the CFETP. MFM's will review the existing specialty description and provide recommendations for change. Changes to the specialty description must be coordinated and approved by HQ AFPC/ DPPAC.

3.3.2. Occupational Survey Results. OSR data helps define career field task and job structure and typical 33S officer career progression, measures current employee job satisfaction, addresses special interest items from senior leaders and validates current schoolhouse curricula.

3.3.2.1. Senior Leader Guidance. Guidance from senior leaders is critical and provides direction and focus to the U&TW.

3.3.2.2. Coordinated draft CFETP. The draft CFETP, coordinated through the AFCFM, AETC and MFM's, outlines the requested changes since it's last publishing.

3.3.2.3. Specialty Tasks. Identify in the CTG (part of the CFETP) tasks required of 33S officers and civilian equivalents.

3.3.2.4. Miscellaneous. Include other documents that influence training requirements, specify responsibilities, policy or procedures. Some examples include AF policy directives and AF instruction documents.

3.3.2.5. Supporting Resources. AETC should be aware of resources required to implement training. This includes instructor authorizations, prerequisite training, requirements, associated logistics, support costs, maintenance, supplies, contracts and the methods by which to acquire them.

3.3. U&TW Process. The U&TW process is a continuous cycle of course improvement, implementation and feedback review intended to incrementally adjust training in the short term to support long term training goals.

PART I SECTION B
CAREER FIELD PROGRESSION
AND INFORMATION

PART I

Section B - Air Force Specialty (AFS) Progression and Information

Specialty Description - Communications Officer. Refer to AFMAN 36-2105, *Officer Classification,* for the most current 33SX career field specialty description.

1. Specialty Summary. Supports joint and service communications requirements. Implements and conducts comm and info unit operations. Conducts defensive information operations. Manages communications related plans, acquisitions, architectures, information resources, postal operations, comm and info engineering efforts, and Air Force visual information (VI) needs. Supports force employment planning, execution, and combat assessment. Conducts deployed communications operations. Plans, develops, engineers, and maintains comm and info architectures and standards. Develops programs to perform Air Force, joint, and allied missions. Performs operations and maintenance of VI activities. Provides executive officer support.

2. Duties and Responsibilities:

2.1. Provides information operations capabilities and delivers the global information grid: Supports commanders and Joint Task Forces (JTF) with command and control communications, computer support, information resources management, postal operations, and air traffic systems maintenance. Operates and administers networks. Plans, engineers, installs, and maintains capability to collect, process, disseminate, and use information. Assures timeliness, accuracy, reliability, non-reputability, verifiability, and security of information while denying the adversary's ability to do the same. Provides military commanders an integrated and interactive picture of mission areas.

2.2. Conducts strategic planning. Develops and writes Air Force, joint service, and combined comm and info plans, programs, and policies. Coordinates plans to ensure coherent planning efforts. Provides input to the planning, programming, and budgeting system. Programs facility, equipment, funding, material, and manpower resources.

2.3. Responsible for systems and communications architectures supporting operational needs. Translates system operational concepts, requirements, architectures, and designs into detailed engineering specifications and criteria. Designs, builds, manages, and maintains distributed networking and computing systems.

2.4. Plans and organizes comm and info acquisition life cycle management activities. Manages cost, schedules, performance, and support of procurement programs.

2.5. Directs information life cycle management. Develops and implements policy and standards to manage information throughout its life cycle. Applies data administration concepts for efficient and economical use of accurate, timely, and sharable information. Analyzes mission requirements. Uses business process reengineering methodologies (e.g. process, data, and activity modeling; activity-based costing; and functional economic analysis) to assess capabilities, establish priorities, and formulate plans for comm and info processes.

2.6. Leads VI functions and activities. Develops VI products to support readiness and training applications. Trains, equips, and leads deployment teams and acquires imagery for operational reporting, decision making, and historical record. Manages processing and exploitation of armament delivery recording (ADR) for operational requirements. Programs resources to meet VI requirements supporting scientific laboratory testing, weapons effects studies, tactics evaluations, combat documentation, and operation of television facilities and systems.

2.7. Leads staff support activities. Provides management and command advisory assistance. Coordinates specialized information collection, production, and presentation. Directs and coordinates executive functions, services, and activities. Represents commander in interaction with other agencies.

2.8. Performs engineering functions. Develops and engineers architectures for comm and info systems. Provides engineering support to develop detailed hardware, software, and firmware design. Coordinates systems matters with research and development, logistics, civil engineering, and other support agencies during definition, procurement, and acceptance of systems facilities and equipment.

2.9. Develops and implements information technology (IT) capital planning investment and control program strategies. Acts as functional consultant for the integration of operational, systems, and technical architectures. Provides and interprets federal, DoD, Air Force, and MAJCOM guidance on procedures, policies, and standards. Supervises information engineering analysts in developing, implementing, and overseeing corporate enterprise architectures.

3. Specialty Qualifications:

3.1. Knowledge. The following knowledge is mandatory for award of the AFSC indicated:

3.1.2. 33S3. Fundamentals of network systems operations; information resources management; operational systems architecture; telecommunications; command and control; flight-line systems maintenance; postal operations; visual information management; and techniques of comm and info planning, programming, project management, procurement, contracting, operations, and maintenance for Air Force, Joint, and allied operations.

3.1.3. 33S3A. Communications systems and standards, distributed network engineering principles and practices, and software engineering principles and practices; Air Force systems engineering process, including development, test, and engineering policies, procedures, and management practices; communications systems architectures; and detailed hardware, software, and firmware design.

3.2. Education. The following education is required for entry into the AFSC as indicated:

3.2.1. 33S1. Minimum of 18 credit hours of IT related courses is mandatory. Included are courses in telecommunications, computers, mathematics, engineering, physics, information systems management and information resources management. Undergraduate academic specialization is desirable in computer science; information systems or resources management; mathematics; engineering; business disciplines with information resource management, information systems, or computer science specialization; industrial or engineering management; physical science; or physics.

3.2.2. 33S1A. Undergraduate degree in electrical or computer engineering is mandatory.

3.3. Training. For award of AFSC 33S3/S3A, completion of the basic communications and information officer course is mandatory.

3.4. Experience. For award of AFSC 33S3/S3A, a minimum of 18 months experience in 33S3/S3A assignments is mandatory.

4. Skill/Career Progression. Adequate training and timely progression from the entry to qualified or staff level play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training do their part to plan, manage and conduct an effective training program. The guidance provided in this part of the CFETP and the Communications-Information Career Path will ensure individuals receive viable training at appropriate points in their careers.URL:

1. **Career Path**

1.1. **Developing Tomorrow's Leaders**. Future Air Force leaders will be those officers who fully understand the operational Air Force, can demonstrate breadth and depth in their career field, have proven their ability to lead and think of themselves as air and space operators first, specialists second. Becoming a future Air Force leader is an on-going process. Successful senior officers built their careers one assignment at a time, always keeping in mind that at any time, their current assignment was the most important assignment for career progression. Each assignment offers valuable experience to enhance breadth and develop depth.

1.2. **Specialty Qualifications**. Knowledge, education, training and experience levels required for award of the 33S AFSC are clearly specified in AFMAN 36-2105, *Officer Classification.* All 33S officers should take the time to review this manual which identifies all requirements for the 33SX, 33SXA (electrical engineering specialty), and 33CO (group/deputy group commander) specialty codes.

1.3. **Professional Development**. To experience the full breadth of opportunities in sufficient depth normally requires a variety of assignments. Successful professional development is essential for those who will eventually hold top leadership positions in the Air Force. A balanced approach to professional development will produce officers with relevant technical expertise, diverse command experience, an ability to apply the tenets of air and space doctrine and a record of performance and assignments that validates these credentials. Professional development requires the following:

1.3.1. Maintaining a balanced approach in tours of duty (i.e., CONUS, overseas, joint, unit-level, agencies and headquarters), positions (i.e., executive officer, instructor, commander, crew and action officer), specialization (i.e., fixed communications, deployable communications, space operations and information operations) and disciplines (i.e., logistics, operations, intel and acquisitions).

1.3.2. Completing professional military education, relevant advanced academic degree and supplemental and continuing technical training and education.

1.3.3. Developing technical expertise in networking and mission system operations. This experience proves invaluable and preparatory to service in a MAJCOM NOSC, combined air operations center, support battle staff or survivable recovery center.

1.3.4. Deploy and/or participate in military exercises. Deployments and exercises provide excellent opportunities to spend time in operational environments, plan for potential conflicts and learn first hand how the communications career field enhances warfighter success.

1.4. **Role of the Commander and Supervisor**.

1.4.1. Commanders, supervisors and senior 33SX officers must take an active role in officer professional development. Senior 33SX officers should provide advice in career planning. Officers should review career goals with their commander or senior 33SX officer at least annually.

1.4.2. Commanders or supervisors should guide and counsel officers during mentoring sessions and performance feedback sessions. They should discuss career progression using the 33SX career pyramid shown in Figure 1.

2. Career Pyramid. The 33SX career pyramid (Figure 1) graphically displays the types of opportunities available at different times in an officer's career. The following paragraphs describe the pyramid from the bottom up. The pyramid is only a guide. It can't possibly represent every single successful career path, and there is no single career path that guarantees success! Refer to the Air Force Personnel Center's homepage and the Comm & Info Assignments Team webpage for up to date information.
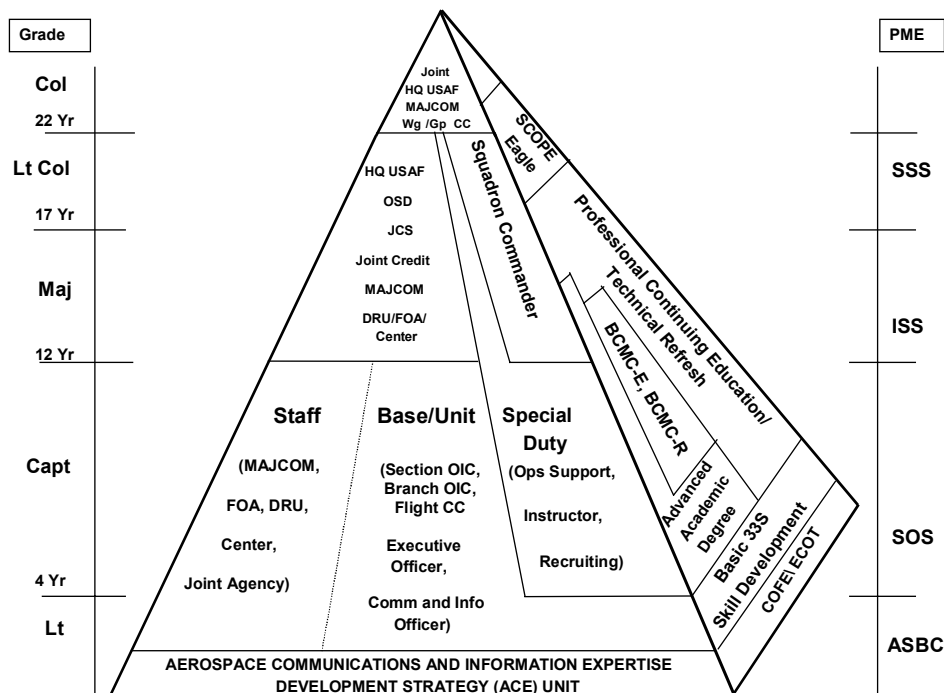
Grade | **PME**

Col

22 Yr

Lt Col — SSS

17 Yr

Maj — ISS

12 Yr

Joint
HQ USAF
MAJCOM
Wg /Gp CC

HQ USAF
OSD
JCS
Joint Credit
MAJCOM
DRU/FOA/
Center

SCOPE Eagle

Squadron Commander

Professional Continuing Education/
Technical Refresh

BCMC-E, BCMC-R

Staff

(MAJCOM,

FOA, DRU,

Center,

Joint Agency)

Base/Unit

(Section OIC,
Branch OIC,
Flight CC

Executive
Officer,

Comm and Info
Officer)

Special Duty

(Ops Support,

Instructor,

Recruiting)

Advanced Academic Degree

Basic 33S Skill Development

COFE/ECOT

Capt — SOS

4 Yr

Lt — ASBC

AEROSPACE COMMUNICATIONS AND INFORMATION EXPERTISE
DEVELOPMENT STRATEGY (ACE) UNIT

Figure 1. 33S Career Field Pyramid

5.1. Career field path review. There is no one ideal career path for communications officers. However, a successful Air Force career normally includes a strong technical base, solid staff experience and challenging leadership positions. Squadron commander, joint duty and Air Staff tours are key building blocks for promotion to senior leadership positions. The often-used phrase still holds true: "How well you do in your current job is the most important factor in determining your future success."

5.1.1. Information technology is a rapidly evolving discipline consisting of various operations. Today's communications officers need an awareness of financial management, security considerations and legal constraints to round out their capabilities. These topics are included within curricula of several of the schools and courses referenced in this CFETP, however, these subjects are critical elements of day-to-day IT operations and warrant special emphasis.

5.2. From commissioning to two years active service. The communications career field's unique Aerospace Communications Expertise (ACE) program is the first step in the overall communications community's development strategy. The ACE program assigns new communications officers to ACE identified operational units for their first assignment to provide a common operational foundation and experience in an operational environment. While officers are specialists in communications, they are airmen first, and must comprehensively understand how communications technology and services enable the warfighting mission. ACE identified units are primarily base level communications units, combat communications units, combat camera units, air communications squadrons (ACOMS), and MAJCOM-level NOSCs. The goals of the ACE initiative are to operationalize future communications leaders, provide a common first step in officer professional development, position Lt's to receive mentoring and produce experienced/operationally oriented officers.

5.2.1. The AFCFM maintains overall responsibility and oversight of the ACE program. The AFCFM and the communications officer assignments team chief are responsible for annually (in the first quarter of the fiscal year) validating ACE allocations. The validation will include reviewing the approved units, allocation of ACE Lts to each unit and current ACE manning. The annual validation will culminate in an annual allocation projection to MAJCOM/SCs, MFMs, and ACE identified unit commanders.

5.2.2. ACE identified unit commanders are critical to the success of the program and are expected to train, educate and mentor ACE Lt's as communications and Air Force officers. While ACE Lts are expected to contribute to the unit's mission, the more important goal of the program is to technically develop these officers early in their career. ACE Lt's are expected to learn the technical aspects of communications and it's operational integration and should also be mentored as future Air Force leaders. ACE Lts are expected to rotate thru two or three positions during their ACE tour to gain experience in multiple mission areas. ACE Lts are expected to gain breadth in the communications field, but should also build depth in a few mission areas. Commanders may also rotate ACE Lts thru other base and tenant units to provide experience, but remain responsible for mentorship. ACE Lts may also be assigned additional duties and special projects if it's in the interest of officer professional development. During their first assignment and within 12 months of commissioning, ACE Lts will complete ECOT and ASBC.

5.2.3. The in-residence ECOT at Keesler AFB, MS, provides a basic level of communications knowledge required for junior officers. Combining technical instruction with concepts of the Air Force's vision, ECOT introduces officers to the role of communications in the Air Force of today and tomorrow.

5.2.4. The Air and Space Basic Course at Maxwell AFB, AL is the first rung of the PME ladder and is designed to inspire new USAF officers to comprehend their roles as airmen; one who understands and lives by USAF core values, articulates and demonstrates USAF core competencies, and who dedicates oneself as a warrior in the world's most respected air force.

5.2.5. CONUS assigned ACE Lts will serve a two-year tour based on their Date Arrived Station (DAS). OCONUS accessions will serve a standard overseas tour. Two key reasons lieutenants must serve only a two-year CONUS tour is to provide vacancies for the next generation of ACE Lts and to provide operationally experienced officers for intermediate level organizations. Rotating CONUS assigned ACE Lt's at two years also provides opportunity for officers to experience two assignments before making their decision whether to remain on active duty. OCONUS assigned ACE Lt's are afforded the same assignment opportunity because they can rotate CONUS with only one-year retainability. The communications career field development strategy supports extending ACE graduates at their location if it's in the best interest of the Air Force and in the interest of OPD, i.e. to fill an executive officer position.

5.3. Two to four years of commissioned service. As part of mentoring, commanders should discuss and prepare ACE lieutenants for their follow-on assignments. ACE graduates will typically follow-on to intermediate level staff jobs to begin developing breadth in the communications arena. Typical intermediate level organizations include Numbered Air Force's (NAF), Field Operating Agencies (FOA) and Direct Reporting Units (DRU), i.e. Standard Systems Group, Electronic Systems Center and the Air Force Operational Test and Evaluation Center. Several opportunities are available to officers between two and four years of commissioned service.

5.3.1. Serve as an executive officer. Executive officer positions at wing level and below are communications officer positions. Officers filling these positions bring communications expertise directly to wing and group mission areas and also serve as liaisons to communications squadrons. Executive officers work directly for wing, group and other commanders and greatly benefit from observing senior leaders in action and shoulder responsibility for inter- and intra-wing and group communications.

5.3.2. Compete for an Air Force Institute of Technology (AFIT) Degree Program. AFIT offers a number of technical master/doctorate degree programs suited for 33S officers. The communications officer assignments team assigns officers graduating from AFIT to Advanced Academic Degree (AAD) coded

positions directly supporting Air Force requirements at all organizational levels. AAD assignments are 3-year controlled tours. AFIT graduate degree programs include Information Resource Management, Computer Engineering, Information Systems Management, Electrical Engineering, and Computer Systems. AFIT also serves as an educational development opportunity for officers selected to attend as part of their professional military education under the force development program.

5.4. Four to nine years of commissioned service. Become schooled in the operational art of war. Not every officer will be assigned to a deployable unit, but every officer is an operator and must be schooled in the operational art of war - the employment of Air Force forces. An officer's operational focus is best developed and maintained through hands-on experience. The ACE initiative provides the foundation for building operational expertise but to become an expert in this area requires follow-on experience through more senior grades at other operational assignments. Operationally focused jobs include Air Expeditionary Force (AEF) squadron mobility officer, AEF deployment commander, AFFOR/A6 planner, combat communications flight commander, Air Operations Center officer, joint operations officer at a regional CINC and AFFOR/J6. PME supplements, broadens and rounds out the direct experience gained through practical application in "line" assignments. Those who successfully work these jobs must also balance their careers by spending tours working other facets of the career field. Many opportunities are available for officers between four and nine years of commissioned service.

5.4.1. Practice Leadership. Leadership is fundamental to officership and should be practiced as a junior officer at every opportunity and in varying situations. Leadership is being responsible for part of a mission as well as people and resources and opportunities to practice leadership are numerous. Formal leadership positions include Section OIC, Branch OIC, flight commander and others. Leadership can also be practiced by participating in additional duties, special projects and other duties across an organization. Each unique situation tests and enhances leadership skills.

5.4.2. Instruct at the Keesler AFB schoolhouse. Military instructor positions at the schoolhouse are communications officer billets. These limited positions enhance officer's understanding of the career field and hone speaking, writing and briefing skills. Officers assigned to the schoolhouse should expect to receive continuing education in the curriculum areas they instruct and should also expect to deploy during their assignment. Instructor continuing education and deploying helps ensure the currency and applicability of AFCOT curriculum and brings field experienced instructors into the classroom. Only by ensuring our schoolhouse staff receives continuing education can we ensure AFCOT students receive world-class training. Some continuing education will be common to all schoolhouse staff. Other more specific continuing education will be based upon the blocks of instruction individual instructors teach. Instructor assignments and instructor outplacement assignments are made by the communications officer assignments team and reviewed by the AFCFM.

5.4.3. Compete for Squadron Officer School (SOS). Promotion to captain affords the opportunity to attend SOS in-residence between the fourth and seventh year of service. The current Air Force expectation is that approximately 75-80% of officers will have the opportunity to attend SOS in-residence. SOS by correspondence is available to officers as soon as they're promoted to captain and is recommend by senior leaders.

5.4.4. Compete for Education with Industry (EWI). EWI is a 10-month program (a PCS) in which the "student" works side-by-side with corporations who directly support the Air Force's communications mission. While 50 or more partner companies participate in EWI, there are only a few companies the communications career field assigns students. Typical company sponsors include Microsoft, Dell, Cisco, SBC Communications and Sun Microsystems. The student's goal is to study the assigned company's organizational structures, management methods and computing/networking technologies. The objective is to develop management qualities and technical leadership abilities that enable the officer to be more effective during their Air Force career. Industry benefits from this endeavor by developing a cadre of officers and civilians within the Air Force who have an in-depth understanding of industry objectives, problems and modes of operations. The need for such an approach to educate emerged as a result of World War II when it became obvious the Air Force needed people who could work with industry on the development of new weapon systems. Officers were needed who understood how industry worked and

who could interpret Air Force needs in industry terms and vice versa. As originally conceived, the program was intended to indoctrinate senior Air Force officers (lieutenant colonels and colonels) with a working knowledge of high-level management techniques used by major defense contractors. Since then, the program has evolved to where the typical attendee is a captain with five to eight years of service. The communications Officer Assignments Team works with Air Staff to selectively place EWI "graduates" in follow-on assignments that best utilize, at the highest level possible, the knowledge students have gained during their EWI tour. While actual assignments will depend on Air Force needs, graduates should expect assignment to staff positions at the MAJCOM, unified command and Air Staff levels. The AFCFM works with AFIT and AFPC to manage and oversee the EWI program.

5.4.5. Compete for the Air Force Intern Program (AFIP). Captains with four to seven years of commissioned service may compete for the Air Force Intern Program (AFIP). AFIP is a prestigious 24-month program broken into four phases designed to expose junior captains, with demonstrated leadership potential, to the staff and decision functions used by senior leaders in the Department of Defense. The first phase is an orientation phase in which interns gain exposure to the politics of Washington DC by meeting with Department of Defense and other governmental agency officials. Phase II consists of full time study at George Washington University and other professional development activities. Phase III consists of two six month rotations in OSD, Joint Staff, Secretariat and/or Air Staff and further professional development. Upon entering phase IV, interns choose to complete their AAD from George Washington University, accept a third six-month rotation or return to the field

5.4.6. Compete for the USMC Expeditionary Warfare School (EWS). The USMC EWS (formerly USMC Command & Control Systems Course) is an *elite* ten-month career-level school for USMC captains focusing on C2 & Expeditionary Operations, Information Operations and a variety of officer professional development topics. Each year approximately six slots are made available to Air Force communications officers (out of a total class size of 60-65). The USMC EWS is also open to Army, Navy and foreign exchange officers. The course covers such topics as C2 Philosophy, Expeditionary Operations, Information Operations, Joint Task Force Operations, Information Management, C4 Planning/Communications Information Systems Officer Planning (CISOP), Battle Studies, Leadership and C2 Applications. Completion of a master's degree and Squadron Officers School is highly desired before attending this course. USMC EWS graduates incur a three-year active duty service commitment upon graduation and are assigned based on best utilization of the experience gained at school. While actual follow-on assignments will be determined by Air Force needs, graduates should expect assignment to combat communications squadrons, air communications squadrons, the joint communications support element, airborne command and control squadrons, Air Force Special Operations Command and other units with similar missions.

5.4.7. Complete a special duty assignment. Officers should expect to serve in a special duty assignment. Special duty assignments include various instructor positions at Reserve Officer Training Corps detachments, Basic Military Training School, Officer Training School, Squadron Officer School and the United States Air Force Academy. Other special duty assignments include positions in recruiting and command posts. The best timing for these assignments is after achieving career field depth and breadth.

5.5. Nine to thirteen years of commissioned service. Serve on a MAJCOM inspector general team. MAJCOM communications inspectors travel throughout the MAJCOM performing compliance and operational readiness inspections. Teams are comprised of highly professional members with an exceptional level of expertise. This duty provides members with the opportunity to become well versed in compliance and operational requirements related to communications planning, implementation, information operations and assurance, communications-electronics maintenance and visual information operations. Several opportunities are available between the ninth and thirteenth years of commissioned service.

5.5.1. Officers selected for promotion to major are eligible for and encouraged to complete Intermediate Developmental Education (IDE)/ Intermediate Service School (ISS) by correspondence or seminar within two years of being promoted. A select few majors are competitively selected to attend IDE/ISS in-residence. Most Air Force officers choose to enroll in the Air Command and Staff College, however, other

courses are available that satisfy IDE/ISS PME. AFI 36-2301, *Professional Military Education,* provides information about IDE/ISS options.

5.5.2. Squadron Command. Majors and Lt Col's may compete for squadron command by meeting the annual communications squadron command screening board. A general officer serves as board president and senior communications officers serve as board members. The squadron commander screening board is narrowly focused on squadron command and selection or non-selection for command and does not reflect an officers potential for promotion. Board results become the hiring list for squadron command positions and is made available to wing commanders for hiring.

5.5.3. Officers should expect to attend the Communications Battlespace Manager Course (CBMC) (formerly Advanced Communications Officer Training) between the 8th and 13th year of commissioned service. This course is a forum for shaping intermediate-level communications leaders by enhancing their knowledge of current interdisciplinary technology and policy employment applications to optimize C4 support to our operators and commanders. The opportunity to attend CBMC is 100 percent for both officers and civilians.

5.5.4. Compete for the Information Assurance Scholarship Program (IASP). The Department of Defense established IASP to enable DOD civilian employees and military members to earn a master's or doctoral degree in the information assurance disciplines. IASP is designed to increase the number of qualified personnel entering the information assurance field to meet DOD's increasing dependence on information technology for warfighting and the security of its information infrastructure. IASP provides a full scholarship to qualified military officers to pursue a master's degree or doctoral program. The participating institutions offering programs of instruction leading to a master's or doctoral degree are part of the Information Resources Management College (IRMC) of the National Defense University (NDU). IASP also provides scholarships for Master's and PhD degrees through the Naval Postgraduate School (NPS) in Monterey, California. The program covers tuition, fees and books at IRMC, NPS and IRMC partnering institutions. Participants continue to receive their military pay throughout the course of study. The AFCFM works with AFOT and AFPC to manage and oversee the IASP program.

5.6. Thirteen years of commissioned service and beyond. Staff billets above the wing level for communications officers are located at many Numbered Air Force (NAF) headquarters, MAJCOM's, agencies, HQ USAF, SAF and joint service organizations. Experience in more than one command is desirable. Technical expertise coupled with staff experience and positions in leadership roles prepare selected officers for command. Majors and lieutenant colonels compete for squadron commander jobs. Assignments for senior lieutenant colonels also include opportunities to serve as ROTC detachment commanders or deputy communications group or mission support group commanders.

5.6.1. Officers selected for promotion to Lt Col are eligible and encouraged to complete Senior Developmental Education (SDE)/ Senior Service School (SSS) by correspondence or seminar within two years of being promoted. A select few Lt Col's are competitively selected to attend SDE/SSS in-residence. Most Air Force officers enroll in Air War College, however, other courses are available to satisfy IDE/ISS. AFI 36-2301, *Professional Military Education* provides information about SDE/SSS options. Upon graduation from a SDE/SSS, officers can expect to be assigned to the Air Staff, joint staff or group level command.

5.6.2. Scope Eagle. Scope Eagle is the Air Force capstone professional development course for the communications career field and provides the forum for communications senior leaders to discuss corporate policies and issues. Scope Eagle is limited to colonels, select lieutenant colonels and civilian equivalents. The five-day course is offered five times annually at Keesler AFB.

PART 1 SECTION C
PROFICIENCY TRAINING REQUIREMENTS

PART I

Section C - Proficiency Training Requirements

1. **Purpose.** Proficiency training requirements in this career field are defined in terms of tasks and knowledge requirements. This section outlines the specialty qualification requirements for entry, award and retention of each AFS level. The specific task and knowledge training requirements are identified in the Course Training Standard (CTS) and Training Course Index at Part II, Sections A and B of this CFETP. They are stated in broad, general terms and establish the standards of performance.

2. **Specialty Qualification**

2.1. Entry Level (33S1)

KNOWLEDGE	No previous knowledge required.
EDUCATION	Minimum of 18 credit hours of IT related courses is mandatory. Included courses are: telecommunications, computers, mathematics, engineering, physics, information systems management and information resources management.
	An undergraduate academic specialization is desirable in computer science; information systems or resources management; mathematics; engineering; business disciplines with information resource management, information systems, or computer science specialization; industrial or engineering management; physical science; or physics.
TRAINING	No mandatory AETC training courses are required for assignment to skill level.
EXPERIENCE	Previous Information Technology experience desired but not required.

2.2. **Entry Level (33S1A)**

KNOWLEDGE	No previous knowledge required
EDUCATION	An undergraduate degree in Electrical or Computer Engineering is mandatory.
TRAINING	No mandatory AETC training courses are required for assignment to skill level.
EXPERIENCE	Previous Communications Engineering experience desired but not required.

2.3. **Qualified (33S3):**

KNOWLEDGE	Fundamentals of network systems operations; information resources management; operational systems architecture; telecommunications; command and control; flight-line systems maintenance; postal operations; visual information management; and techniques of communications planning, programming, project management, procurement, contracting, operations and maintenance for Air Force, Joint and allied operations is desired.
EDUCATION	No additional education required.
TRAINING	Completion of ECOT is mandatory.
EXPERIENCE	Minimum of 18 months experience performing 33S3 duties.

2.4. Qualified (33S3A)

KNOWLEDGE	Communications systems and standards, distributed network engineering principles and practices and software engineering principles and practices; Air Force systems engineering process, including development, test, and engineering policies, procedures, and management practices; communications systems architectures; and detailed hardware, software, and firmware design is desired.
EDUCATION	No additional education required.
TRAINING	Completion of ECOT is mandatory.
EXPERIENCE	A minimum of 18 months experience performing 33S3A duties is mandatory.

2.5. Staff Level (33S4)

KNOWLEDGE	Communications systems and standards, policy and guidelines, distributed network engineering principles and practices, and software engineering principles and practices; Air Force systems engineering process, including development, test and engineering policies, procedures and management practices; communications systems architectures; and detailed hardware, software and firmware design is desired. Fundamentals of network systems operations; information resources management; operational systems architecture; telecommunications; command and control; flight-line systems maintenance; postal operations; visual information management; and techniques of communications planning, programming, project management, procurement, contracting, operations and maintenance for Air Force, Joint and allied operations is also desired.
EDUCATION	No additional education required.
TRAINING	No additional mandatory training required.
EXPERIENCE	No additional mandatory experience required.
OTHER	AFSC is awarded positionally. 33S4 AFSC is utilized to designate manpower positions in organizations above Wing level.

PART I SECTION D

RESOURCE CONSTRAINTS

PART I

Section D - Resource Constraints

1. **Purpose.** This section identifies known resource constraints that preclude optimal/desired training from being developed or conducted, including information such as part numbers, national stock numbers, number of units required, cost, manpower, etc. Included are narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training. Finally, this section includes actions required, OPR and target completion date. Resource constraints will be, at a minimum, reviewed and updated annually.

2. No known resource constraints exist in AF Communications Officer Training (AFCOT) at this time.

PART II SECTION A
COURSE TRAINING STANDARDS

PART II

Section A - Course Training Standards

1. Purpose:

1.1. This Course Training Standard establishes the training requirements using task or knowledge statements for Air Force Communication Officer Training Courses. The training tasks are based on an analysis of duties in AFMAN 36-2105 for AFSC 33SX as described in the Air Force Education and Training Course Announcements (ETCA) database (formerly AFCAT 36-2223, USAF Formal Schools Catalog).

1.1.1. Provides the basis for the development of more detailed training materials, training objectives and training evaluation instruments for the course.

1.1.2. The following Course Training Standards are attached:

Course Number	Title
E6OGU33S1-000	Communications Officer Fundamentals Exportable (COFE) Course
E3OBR33S1-011	EAF Communications Officer Training (ECOT) Course
E3OBR33S1A-006	Communications Officer Engineering Course
E3OZR33S3-001	Communications Officer Information Operations Education Course
E3OZR33S3-003	Deployable /Tactical Communications Course
E3OZR33S3-004	Enterprise Network Operations Management Course
E3OZR33S3-005	Communications Officer Network Training Course
E3OZR33S3-006	Executive Officer Education Course
E3OZR33S3-000	Warfighting Integration Course
E3OCR33S4-000	Communications Battlespace Management Course (CBMC)

2. Recommendations. Comments and recommendations are invited concerning the quality of AETC training. A Training Feedback Hotline has been installed for the supervisors' convenience. For a quick response to concerns, call our Training Feedback Hotline at DSN 597-4566, fax us at DSN 597-3790, or e-mail us at, 81trg-tget@keesler.af.mil. Reference this CTS and identify the specific area of concern (paragraph, training standard element, etc).

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

RONNIE D. HAWKINS, JR., Col, USAF
Director of Communications Operations
DCS/Installation and Logistics

COMMUNICATIONS OFFICER FUNDAMENTALS EXPORTABLE (COFE) COURSE

Course Description. Provides fundamental training for Air Force personnel with AFSC 33SX and 33SXA.

QUALITATIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. COMMUNICATIONS AND INFORMATION ROLES AND MISSIONS:

1a. Identify Air Force and joint communications and information organizations, their inter-relationships, and the missions they support.

1b. Identify the responsibilities and functions of communications professionals both in-garrison and deployed.

1c. Identify communications officer supervisory responsibilities.

1d. Identify legal and ethical foundations and policy directives governing communications and information.

1e. Identify legal and security implications of developing and publishing web sites.

2. RESOURCE, INFORMATION, AND PROJECT MANAGEMENT:

2a. Identify the concepts of information life cycle management.

2b. Identify the concepts of systems and acquisition life cycle management.

2c. Identify elements of enterprise information management.

2d. Identify the responsibilities of controlling and managing Air Force C4I assets (both hardware and software).

2e. Identify the key aspects of project management.

2f. Identify the mission of the plans and programs support function.

2g. Identify communications special requirements requests.

2h. Identify the roles and responsibilities of C4I System Management (CSO, etc.).

3. COMMUNICATIONS AND COMPUTERS:

3a. Identify the components of a computer system and their functions.

3b. Identify the need for and concepts of common operating environments

3c. Identify principles of configuration management and control: hardware and software.

3d. Identify how a communications system functions.

3e. Identify the principles of radio, radar, and satellite systems.

3f. Identify how modulation and multiplexing are used in communications systems.

3g. Identify the operational concept and components of telephone systems.

3h. Identify terrestrial and space-based transmission media theory and its applications.

3i. Identify the elements of secure communications.

3j. Identify current cryptographic/encryption equipment in use by USAF/DoD.

3k. Identify environmental considerations for communications and information systems and facilities.

3l. Identify causes and effects of natural and/or man-made electromagnetic interference on communications and information systems.

3m. Identify principles of networking communications systems (i.e. radio, radar, etc.).

3n. Identify what constitutes information.

3o. Identify information management concerns.

3p. Identify electronic fundamentals.

3q. Identify spectrum/bandwidth principles.

3r. Identify signal characteristics.

3s. Identify types of computer files.

4. NETWORKING:

4a. Identify network fundamentals.

4b. Identify the seven layers of the Open Systems Interconnection (OSI) reference model and how data flows in a network.

4c. Identify the functions and interrelationships of the seven layers of the OSI model

4d. Identify the operational concepts and components of networks.

4e. Identify the characteristics of current network technologies.

4f. Identify types of networks and cabling solutions.

4g. Identify the characteristics and functions of network management tools.

4h. Identify configuration and administration of a server.

4i. Identify Wide Area Network technologies.

4j. Identify the Work Group Manager (WGM) and Functional Systems Administrator (FSA) responsibilities.

5. INFORMATION ASSURANCE / INFORMATION OPERATIONS:

5a. Identify the components required for information assurance/information protection (IA/IP).

5b. Identify information assurance (IA) functions.

5c. Identify the definition and role of information operations (IO).

5d. Identify the mission areas of information operations (IO).

5e. Explain the survivability measures and implementation of the prescribed Force Protection conditions (FPCON) and Information Operations conditions (INFOCON).

5f. Identify the tasks, positions and functions of network security operations at all levels.

5g. Identify the Designated Approval Authority (DAA) responsibilities.

5h. Identify the basic tenets of controlling and handling classified information and systems.

5i. Identify the certification and accreditation, Certificate to Operate and Certificate of Net Worthiness requirements and processes.

6. MILITARY APPLICATIONS:

6a. Identify the roles and responsibilities of the communications officer within a communications squadron.

6b. Identify the basic concepts of communications and information system sustainment in the Air Force.

6c. Identify the mission of the Maintenance Control and Maintenance Support functions both in-garrison and deployed.

6d. Identify the functions and responsibilities of the STEM B/C.

6e. Identify long haul communication network services within Defense Information Switching Network and commercial communications.

6f. Identify deployable communications and information services.

6g. Identify the operational planning, readiness, and deployment processes for communications and information resources.

6h. List the capabilities of the primary communications and information systems and services used to support deployable operations.

6i. Identify the command and control battle management systems and core elements used to support the combat, mobility and space forces.

6j. Identify the issues that communications officers should be aware of with use of space-based assets.

6k. Identify the roles and capabilities of the standardized tactical entry point (STEP) to deployed communications networks.

6l. Identify the purpose and processes of the base communications blueprint.

6m. Identify the communications officer responsibilities in VI/Multimedia and postal operations.

6n. Identify the impact of emerging technology on the Air Force.

6o. Identify fundamentals including satellite system segments, frequencies, orbits, launch support, space weather, and transponded vs. processed systems.

6p. Identify roles and responsibilities of SATCOM systems management (including satellite access process and headquarters and agency roles).

6q. Identify the integration/architecture of space systems for command, control, communications, computers, intelligence surveillance and reconnaissance (C4ISR).

6r. Describe Transformational Communications concepts.

6s. Identify Satellite Control Networks that support Command and Control of space communications systems.

7. WARFIGHTING INTEGRATION AND ARCHITECTURES:

7a. Identify communications architectures (technical, systems and operational).

7b. Identify the components of communications architectures.

7c. Identify integration and interoperability between hardware and software.

7d. Identify the communications officer responsibility for vertical and horizontal systems integration.

7e. Identify the issues of integrating airborne operations into the communications architecture.

7f. Identify NCC/NOSC/AFNOSC functions.

7g. Identify how the communications officer supports the fundamental principles of C4ISR.

7h. Identify the role C4ISR plays in the full spectrum of operations.

7i. Identify space-based communications elements that support the war fighter.

7j. Identify spectrum management concepts.

7k. Identify the roles and responsibilities of Air Force, Joint, National and international organizations involved in spectrum management.

7l. Identify the commonly used Tactical Data Interface Links (TADIL) and the role Joint Interface Control Officer (JICO).

7m. Identify the components that form the Air Picture.

7n. Identify the Find, Fix, Track, Target, Engage, and Assess (F2T2EA) cycle.

7o. Identify sensor (i.e., Predator, Global Hawk, U-2) communications systems.

8. EXPEDITIONARY WARFARE SUPPORT:

8a. Identify the communications and information elements of the deliberate and crisis planning process.

8b. Identify the operational role and capabilities of an air operations center and the supporting ACOMS.

8c. Identify C4 organizations, systems and networks supporting joint air operations. (8.0 hrs)

8d. Identify the primary agencies/elements of the Theater Air Ground System (TAGS) components and their basic functions.

8e. Identify the automated C4 system of record used to process air operations (Air Tasking Orders and Airspace Control Orders).

8f. Identify the roles of the SATCOM planner and bandwidth managers in controlling and executing SATCOM operations.

EXPEDITIONARY AEROSPACE FORCE (EAF) COMMUNICATIONS OFFICER TRAINING (ECOT)

Course Description: Provides basic education for Air Force personnel with AFSC 33SX and international officers trained under the provisions of the Air Force Security Assistance Program in the knowledge and skills necessary to perform duties of a Communications Officer. It presents an introduction to basic comm doctrine including the objective comm squadron, future outsourcing initiatives, emerging technologies, officer professional development, and the roles of communications officers and organizations in the AF enterprise structure. In addition, it provides an introduction to key communications officer roles in deployed comm, networking, enterprise operations, executive officer duties, space operations, and overall view of warfighting integration.

QUALITATIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. COMMUNICATIONS AND INFORMATION FOUNDATIONS:

1a. Describe Air Force and Joint doctrine.

1b. Identify how the communications officer supports the fundamental principles of C4ISR.

1c. Identify the missions of Air Force communications organizations.

1d. Identify how the objective communications squadron supports the wing mission.

1e. Describe the functions of the flights within a communications squadron.

1f. Describe the roles and responsibilities of the communications officer within a communications squadron.

1g. Identify communications AFSCs duties and responsibilities; officer, enlisted and civilian.

1h. Explain the basic concepts of communication and information system sustainment in the Air Force.

1i. Define elements of enterprise information management.

1j. Describe the impact of emerging technology on the Air Force.

1k. Define the role of the executive officer, explain suspense tracking, and describe civilian and military personnel actions and processes.

1l. Identify the base level fiscal year budget process.

1m. Identify the base level procurement process.

1n. Identify the processes and documents required to procure communications and information resources and services.

1o. Identify base level responsibilities associated with contract management.

1p. Identify unit level force management responsibilities.

1q. Identify processes involved with competitive sourcing and privatization.

2. COMMUNICATIONS FUNDAMENTALS:

2a. Identify long haul communication network services within Defense Information System Network and commercial communications.

2b. Describe how a communications system functions.

2c. Describe the principles of radio, radar, and satellite systems.

2d. Describe how modulation and multiplexing are used in communications systems.

2e. Describe the operational concept and components of telephone systems.

2f. Describe spectrum/bandwidth principles.

2g. Describe signal characteristics.

2h. Describe principles of networking communications systems (i.e. radio, radar, etc.).

2i. Explain communications architectures (technical, systems and operational).

2j. Explain spectrum management concepts.

2k. Explain the roles and responsibilities of Air Force, Joint, National and International organizations involved in spectrum management.

2l. Describe computer system components and their functions.

2m. Describe integration and interoperability between hardware and software.

3. NETWORK FUNDAMENTALS:

3a. Describe network fundamentals.

3b. Describe the operational concepts and components of networks.

3c. Describe capabilities and services provided by Air Force networks

3d. Describe legal and ethical foundations and policy directives governing communications and information, including limiting factors and legalities associated with offensive/defensive information assurance.

3e. Describe network centric operations.

3f. Describe the elements of secure communications.

3g. Explain the roles and responsibilities of the base network control center.

3h. Describe the roles of the MAJCOM Network Operations & Security Center (NOSC), Air Force Network Operations Center (AFNOC), Air Force Network Operations & Security Center (AFNOSC).

3i. Describe the mission areas of information operations (IO).

3j. Explain the components and functions of information assurance (IA) and information protection.

3k. Explain the survivability measures and implementation of the prescribed Force Protection conditions (FPCON) and Information Operations conditions (INFOCON).

3l. Explain the certification and accreditation, Certificate to Operate and Certificate of NetWorthiness requirements and processes.

3m. Explain "network-centric warfare".

4. WARFIGHTING INTEGRATION:

4a. Define Warfighting Integration and the Find, Fix, Track, Target, Engage, Assess (F2T2EA) process.

4b. Identify Joint and AF Doctrine used to establish Warfighting Integration.

4c. Describe AF/XI Warfighting Integration organization and goals.

4d. Describe evolution of Joint Interoperability to Warfighting Integration.

4e. Identify sensors used in the F2T2EA process to enhance the capabilities of the warfighter.

4f. Describe the command and control battle management systems and core elements used to support combat, mobility and space forces.

4g. Identify the currently used communications paths to connect the F2T2EA systems to the C2 systems

4h. Describe the AOC organizational structure and their roles in the F2T2EA process.

5. WARFIGHTING SUPPORT:

5a. Describe the role of the Network Control Center (NCC), Network Operations & Security Center (NOSC) and Air Force Network Operations & Security Center (AFNOSC) as it relates to the warfighter.

5b. Describe the role of the expeditionary communications officer in controlling and supporting reachback, ISR dissemination, combat operations planning and support in the AOC, and status reporting.

5c. Explain the concepts of initial and follow-on sustainment communication and information systems in the Air Force.

5d. Describe the capabilities of deployable communications organizations.

5e. List the capabilities of the primary communications and information systems and services used to support deployable operations.

5f. Describe the issues that communications and information officers should be aware of with use of space-based assets.

5g. Describe the sub-mission areas of Space Support including Launch and Space Operations.

5h. Explain Space-based communications fundamentals including history, satellite system segments, frequencies, orbits, space weather, and transponded vs. processed systems.

5i. Describe the various space systems as they relate to the AF space mission areas.

5j. Describe the space doctrine that provides the framework for the current organization, policy, CONOPS, and vision.

5k. Describe the roles of the SATCOM planner, bandwidth and Frequency managers in controlling and executing SATCOM operations.

5l. Explain the capabilities of the current SATCOM systems in the Force Enhancement Mission Area.

5m. Describe how space-based communications systems have made support to the war fighter "real-time".

6. OFFICER PROFESSIONAL DEVELOPMENT:

6a. Explain the Officer Professional Development (OPD) vision for communications and information officers and the importance of continuous training. (In seminar)

6b. Describe the effects of team building and teamwork on the outcome of group behavior. (In seminar)

6c. Identify the leadership and career development responsibilities and functions of communications operators.

COMMUNICATIONS OFFICER ENGINEERING COURSE

Course Description: Provides education for Air Force personnel with AFSC 33SXA and international officers trained under the provisions of the Air Force Security Assistance Program in the knowledge and skills necessary to perform duties of Communications Engineering Officer. It presents current and emerging communications and information programs, initiatives and technologies impacting the Department of Defense total force concept for the communications and information warrior in a fixed and deployed environment.

QUALITATIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. ENGINEERING FACTORS:

1a. Predict reliability and maintainability of communication systems.

1b. Describe communication links to achieve a specified grade of service by applying basic queuing theory.

2. COMMUNICATIONS LINK ENGINEERING:

2a. Calculate parameters required to set up a high frequency communication link.

2b. Calculate parameters required to set up a microwave communication link.

2c. Calculate parameters required to set up a troposcatter communication link.

2d. Calculate parameters required to set up a satellite communication link.

2e. Identify the primary wing communications and information requirements to support a typical theater air base in a deployed environment.

2f. Demonstrate site survey and equipment siting techniques required to establish a reliable tactical communications link.

2g. Create a multiplexing plan using current Air Force tactical transmission assets for typical expeditionary wing operation.

2h. Create a communications package to support operation at a typical theater air base contingency in a deployed environment.

3. NETWORK ENGINEERING AND ANALYSIS:

3a. Create a secure network enclave within a non-secure network.

3b. Describe the primary hardware and software tradeoffs associated with designing a base backbone network within a limited budget, to include consideration of quantity, capability and capacity of associated subsystems.

3c. Apply modeling and simulation software/ methods to evaluate performance of a proposed network technical solution.

3d. Isolate and correct network problems using network analysis tools and techniques.

3e. Construct a technical solution for a user's requirements using network engineering principles.

4. ENGINEERING AND INSTALLATION:

4a. Perform an engineering site survey for a user communications requirement.

4b. Write a Project Support Agreement to satisfy a user requirement.

4c. Construct an installation project package to fulfill a user requirement.

4d. Explain the functions and responsibilities of the STEM B/C.

4e. Explain the purpose and processes of the base communications blueprint.

COMMUNICATIONS OFFICER INFORMATION OPERATIONS EDUCATION COURSE

Course Description: Provides advanced education for Air Force personnel with AFSC 33SX and international officers trained under the provisions of the Air Force Security Assistance Program in the knowledge and skills of information operations, information assurance, and information warfare impacting the Department of Defense total force concept for the communications professional.

QUALITATIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. Describe the elements of secure communications.

2. Describe the information activities and services of Information Operations (IO).

3. Explain the value of the network as a weapon system and the ramification of information attacks on mission accomplishment.

4. Secure network infrastructure from internal and external attacks.

5. Demonstrate appropriate response to information threats and/or attacks.

6. Explain the survivability measures and implementation of the prescribed Force Protection conditions (FPCON) and Information Operations conditions (INFOCON).

7. Explain the tasks, positions and functions of network security operations at all levels.

8. Explain the process for integrating emerging technology into an existing operational infrastructure. (Note: DAA certification and accreditation)

9. Explain the certification and accreditation, Certificate to Operate,and Certificate of Net Worthiness requirements and processes.

10. Develop a certification and accreditation package.

11. Describe the importance of survivability and risk management in the full spectrum of operations.

12. Explain legal and ethical foundations and policy directives. (Note: including limiting factors and legalities associated with offensive/defensive information assurance)

**COMMUNICATIONS OFFICER DEPLOYABLE & TACTICAL COMMUNICATIONS EDUCATION
COURSE**

Course Description: Provides advanced education for Air Force personnel with AFSC 33SX and international officers trained under the provisions of the Air Force Security Assistance Program in the knowledge and skills necessary for management of Deployable & Tactical communications systems. It presents current and emerging communications programs, initiatives and technologies impacting the Department of Defense total force concept for the communications warriors in a deployed environment.

QUALITATIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. Explain the roles and responsibilities of the communications officer within a deployable communications organization. (Note: SORTS, personal readiness, etc)

2. Describe the functions of a deployable communications organization.(JCSE, combat comm, ACOMS, combat camera, ACS)

3. Explain the concepts of initial and follow-on sustainment communication and information systems in the Air Force. (Note: wing level deployed comm vs combat comm)

4. Identify long haul communication network services within Defense Information Switching network and commercial communications.

5. Explain the joint operational planning and readiness processes.

6. Explain the capabilities of the primary communications and information systems and services used to support deployable operations. (Note: Include architecture and connectivity)

7. Describe the command and control battle management systems and core elements used to support the combat, mobility and space forces.

8. Explain how deployable communications and information systems are used to support operations from the planning through re-deployment phases.

9. Describe spaced-based communications elements that support the warfighter and issues that communications and information officers should be aware of with use of space-based assets. Note: MILSATCOM, civil, and commercial)

10. Describe the roles and capabilities of the Standardized Tactical Entry Point (STEP) and Teleport to deployed communications networks.

11. Explain roles and responsibilities of SATCOM systems management (including satellite access process and headquarters and agency roles).

12. Explain the use of space systems for command, control, communications, computers, intelligence surveillance and reconnaissance (C4ISR).

13. Explain spectrum issues in a deployed environment.

Attachment 5

14. Describe capabilities provided to users of deployable & tactical communications.

15. Describe the contribution of deployable & tactical communications to the F2T2EA kill chain.

COMMUNICATIONS OFFICER ENTERPRISE NETWORK OPERATIONS MANAGEMENT COURSE

Course Description: Provides advanced education for Air Force personnel with AFSC 33SX in the knowledge and skills necessary to manage Air Force enterprise network operations. It presents current and emerging communications and information programs, initiatives and technologies impacting the Department of Defense total force concept for the communications warrior in a fixed and deployed environment.

QUALITATIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. Explain the roles, responsibilities, and authority of the Base Network Control Center (BNCC), MAJCOM Network Operations & Security Center (NOSC), Air Force Network Operations & Security Center AFNOSC), Air Force Network Operations Center (AFNOC), Global Network Operations & Security Center (GNOSC), and Network Operations & Security Center – Deployed (NOSC-D)

2. Describe Air Force network concept of operations.

3. Describe the concept of Lights Out.

4. Describe networking architectures.

5. Explain the Global Information Grid.

6. Explain Notice to Airmen (NOTAMS).

7. Compare, contrast and describe the functions of Time Compliance Networking Orders (TCNO) and Time Compliance Technical Orders (TCTO).

8. Explain Operationalizing and Professionalizing the Network (OPTN).

9. Explain the tasks, positions, and functions of network operations and security at all levels.

10. Describe the relationship between Air Force Network Control Centers, the Joint Task Force (JTF), and the Joint Communications Control Center (JCCC).

11. Describe the Combat Information Transport System (CITS).

12. Explain the process for integrating emerging technology into an existing operational infrastructure

13. Describe in-garrison and deployed capabilities & services provided on the network.

14. Describe and explain the impact of deployable comm capabilities.

15. Explain the certification, accreditation, certificate to operate, and certificate of networthiness requirements and processes.

16. Explain the network's impact on the F2T2EA kill chain.

17. Describe the relationship of Air Force Network Control Centers and the Defense Information Systems Agency (DISA).

18. Describe the relationship of Air Force Network operations and the program management office.

19. Explain the importance of survivability & risk management in the full spectrum of operations.

20. Describe the impact of functional area network applications (used by civil engineering, logistics, maintenance, operations, personnel, medical, and other base/wing level organizations that are remotely maintained and databased) on the enterprise infrastructure.

Attachment 6

COMMUNICATIONS OFFICER NETWORK TRAINING COURSE

Course Description: Provides advanced computer and network operations training for Air Force officers with AFSC 33SX and international officers trained under the provisions of the Air Force Security Assistance Program in the knowledge and skills necessary to operate and manage Air Force networks at the base/ wing/ MAJCOM NOSC level. This course is intended for officers assigned to a base network control center, MAJCOM Network Operations & Security Centers (NOSC), Air Force Network Operations Center (AFNOC), or the Air Force Network Operations & Security Center (AFNOSC). This course is intended as a pre-requisite for the Enterprise Network Management and Information Operations Familiarization Courses. Students are familiarized with computer system components, spectrum and bandwidth principles, networking communications systems (i.e. radar, radio, etc.), and networking components. Students will configure switches, routers, and servers, to provide simulated wide-area and local-area network connectivity and operations. Instruction includes familiarization and hands on operation of network management and configuration utilities. Additionally, students will practice securing the network infrastructure from internal and external threats.

QUALITATIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. Explain the functions of computer systems components.

2. Describe spectrum/bandwidth principles.

3. Describe signal characteristics.

4. Explain principles of networking communications systems (i.e. radio, radar, etc.).

5. Describe network fundamentals.

6. Describe the operational concepts and components of networks.

7. Describe router operations.

8. Configure and program router functions.

9. Describe switch operations.

10. Implement switch operations.

11. Explain the characteristics and functions of network management tools.

12. Describe concepts and procedures for interconnecting networks.

13. Describe wide area network technologies.

14. Configure wide area network technologies.

15. Describe concepts and procedures for managing network traffic.

16. Use network management tools.

17. Describe and implement server network infrastructure.

18. Implement network server software configuration.

19. Secure network infrastructure from internal and external attacks.

20. Demonstrate appropriate response to information threats and/or attacks.

21. Configure network management platform.

22. Describe network applications used by civil engineering, logistics, maintenance, operations, personnel, and other base/ wing level organizations.

EXECUTIVE OFFICER EDUCATION COURSE

Course Description: Provides education and prepares Air Force officers of any AFSC for executive officer duties at the wing level and below.

QUALITATIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. Create Quick Reference Book.

2. Explain The Accepted Rules Of The Executive Officer. (1 hr) (Note: Make The Boss Look Good, Never Make The Boss Wait For You, Always Having Writing Instrument, Don't Fall In Love With The Plan, Always Have Coins, Always Carry Cash, Breathing Room, To Speak Or Not To Speak, Art Of The Fade, Interdiction)

3. Identify Methods Of Getting To Know The Boss.

4. Explain Rules Of Protocol.

5. Practice Time Management.

6. Explain Suspense Tracking.

7. Manage Correspondence.

7a. Maintain Telecon Log

7b. Track Verbal Communications

7c. Track Hardcopy Correspondence

7d. Manage Email And Utilize Email Receipting (In Class CBT)

7e. Manage Tasks With Outlook Tasks (In Class CBT)

8. Manage Commander's Calendar/ Schedule.

8a. DV's

8b. Flying

8c. Meetings

8d. Coordinate Commanders Travel. (Note: Develop Trip Book)

9. Draft Official Correspondence For Commander's Signature. (Note: Writing Exercise)

10. Describe Proper Classified And FOUO Handling Procedures. (Note: SIPRNET, Physical Security, Passwords).

11. Explain Civilian And Military Personnel Actions And Processes.

11a. Performance Reports/PRFs

11b. Decorations/ Awards

11c. Assignments

11d. Promotion/ School Selection

12. Prepare Meetings.

12a. Commanders Call

12b. Staff Meetings

12c. Change Of Commands

12d. Retirements

13. Detail Organizational Structure.

13a. Wing Staff

13b. Squadrons

13c. Command Section

COMMUNICATIONS OFFICER WARFIGHTING INTEGRATION EDUCATION COURSE

Course Description: Provides advanced education for Air Force personnel with AFSC 33SX and international officers trained under the provisions of the Air Force Security Assistance Program in the knowledge and skills of warfighting integration. It presents current and emerging communications programs, initiatives and technologies impacting the Department of Defense total force concept for communications warriors in warfighting integration.

QUALITATIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. INTRODUCTION TO WARFIGHTER INTEGRATION

1a. Define Warfighter Integration and the Find, Fix, Track, Target, Engage, Assess (F2T2EA) process.

1b. Identify Joint and AF Doctrine used to establish Warfighter Integration.

1c. Describe AF/XI Warfighter Integration organization and goals.

1d. Describe evolution of Joint Interoperability to Warfighter Integration.

2. COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (C4ISR) PLATFORMS (SENSORS)

2a. Identify manned and unmanned air assets used in the F2T2EA process to enhance capabilities of the Warfighter.

2b. Identify space assets used in the F2T2EA process to enhance capabilities of the Warfighter.

2c. Identify ground assets used in the F2T2EA process to enhance capabilities of the Warfighter.

3. COMMAND AND CONTROL, INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE (C2ISR) SYSTEMS

3a. Describe the command and control battle management systems and core elements used to support combat, mobility and space forces.

3b. Identify the currently used communications paths to connect the F2T2EA systems to the C2 systems

3c. Describe the process used to integrate emerging technology into existing C2ISR systems.

4. AOC ORGANIZATIONAL STRUCTURE

4a. Describe AOC organizational structure and typical locations.

4b. Match AOC positions to their roles in the F2T2EA process.

5. WARFIGHTER INTEGRATION PROJECT

5a. Define the systems and interfaces to effectively complete the F2T2EA process to support a notional conflict with a given set of conditions.

COMMUNICATIONS BATTLESPACE MANAGEMENT COURSE (CBMC)

Course Description. The Communications Battlefield Management Course (CBMC) is the professional development school for intermediate-level Communications Officers and civilian equivalents in the 33S career field. The course provides knowledge and skills necessary to perform duties of a Communications Officer at the field grade level. It presents current and emerging communications and information programs, initiatives and technologies impacting the Department of Defense total force concept for the communications and information warrior in a fixed and deployed environment. Refer to AFCAT 36-2223 for attendance criteria.

QUALITIVE REQUIREMENTS KNOWLEDGE AND TASK BEHAVIORAL STATEMENTS

1. COMMUNICATIONS SQUADRON ISSUES:

1a. Explain Air Force, joint, and information operations doctrine.

1b. Explain the communications squadron commander's role as a functional manager for all base communications and information enlisted, civilian, and officers. (Note: Comm Sq CC as guest speaker)

1c. Explain C4 organizations, systems and networks supporting base ops in an in-garrison environment. (Note: tours; discuss issues and guidance (example: voice, intrabase, DSN, commercial, VTC, SPIRNET/NIPRNET, Autodin/DMS, ATC, MetNav, C2 Nets, LMR, VI/Postal Organizations))

1d. Given a topic, research and brief an ET to include how it will be integrated into the existing operational infrastructure.

1e. Explain the purpose and processes of base deployment responsibilities (for example: War Mobilization Planning, Unit Type Codes, Design Operational Capability (DOC) Statements, and Status of Resources and Training System (SORTS) reporting). (Note: include ART and determine status of UTC's at a Fabricated Unit)

1f. Describe the base level and unit level budgeting process. (Note: Resource Advisor; FinPlan; Spend Plan; Financial Working Group; Financial Management Board; Budget Execution Report (BER); Fallout Spending; Executive Reserve Account)

1g. Describe challenges associated with operating in a competitively sourced or privatized environment. (Note: Describe A-76 process and ramifications to employees and supervisors)

1h. Describe the functions and responsibilities of STEMs. (Note: guest speaker from 38EIG and the programs in place, tour 738EIS)

1i. Explain the roles, responsibilities and employment of ANG and AFRC. (Note: guest speaker from ANG/AFRC)

1j. Describe legal and ethical foundations and policy directives governing communications and information. (Note: Privacy Act, Freedom of Information Act, Email, OSI investigation/involvement)

2. INFORMATION OPERATIONS:

2a. Describe information operations issues. (information assurance, information protection, information warfare) Guest Speaker – 403IN, 23IOS, or 39IOS

2b. Explain the communications support functions under the prescribed Force Protection Conditions and Information Conditions.

2c. Describe the issues related to network security operations at all levels. (Notes: NCC, NOSC, AFNOC/AFNOSC, fixed and deployed) Guest Speaker

3. WARFIGHTING INTEGRATION AND ARCHITECTURES:

3a. Describe communications integration and interoperability issues. (Note: e.g. functional areas, joint, coalition, homeland defense)

3b. Explain spectrum management concepts. (Note: Guest speaker from ACC, ASC2RIC, or local Frequency Management School at Keesler)

3c. Explain the roles and responsibilities of Air Force, Joint, National and international organizations involved in spectrum management. (Note: same guest speaker as CTS: 3b)

4. EXPEDITIONARY WARFARE SUPPORT:

4a. Explain communications and information issues involved when working in joint, combined and coalition operations. (Note: include physical and computer security, information sharing, technology differences, systems segmenting)

4b. Explain the war fighter's use of communications and information systems in expeditionary operations. (PC – Annex K planning)

4c. Describe the communications and information elements of the deliberate and crisis planning process. (1 hr)

4d. Describe the operational role and capabilities of an air operations center and the supporting ACOMS.

4e. Explain C4 organizations, systems and networks supporting base ops in a deployed environment.

4f. Identify the primary agencies/elements of the Theater Air Ground System (TAGS) components and their basic functions.

4g. Describe the communications officer's role in processing air operations (i.e. Air Tasking Order (ATO) and Airspace Control Order (ACO)).

4h. Describe the roles of the SATCOM planner and bandwidth managers in controlling and executing SATCOM operations.

4i. Describe a SATCOM architecture.

4j. Describe how Tactical Data Interface Links (TADIL) are used.

4k. Explain the role of Joint Interface Control Officer (JICO).

4l. Describe the sensors, systems, and components that integrate to form the Air Picture. (Note: Satellites, Air Threats, CRC, AOC, AWACS, COP, etc)

4m. Explain the Find, Fix, Track, Target, Engage, and Assess (F2T2EA) cycle.

4n. Describe ISR communications systems and the bandwidth utilization implications. (i.e., Predator, Global Hawk, U-2)

4o. Explain roles and responsibilities of SATCOM systems management (including satellite access process and headquarters and agency roles).

4p. Explain the integration/architecture of space systems for command, control, communications, computers, intelligence surveillance and reconnaissance (C4ISR).

4q. Explain Satellite Control Networks that support Command and Control of space communications systems.

5. SCOPE FALCON SEMINARS (Senior Leader Perspectives): 32 hrs (2 hrs per element)

5a. Suggested topic list:

- Explain current communications issues in the expeditionary environment.

- Describe the communications officer responsibility for vertical and horizontal systems integration.

- Describe the issues of integrating airborne operations into the communications architecture.

- Describe integration between in-garrison operational network control centers and deployable systems.

- Identify how the communications officer supports the fundamental principles of C4ISR.

- Identify the role C4ISR plays in the full spectrum of operations.

- Describe the role of the communications officer in controlling and supporting reachback, ISR dissemination, combat operations planning, support in the AOC, and status reporting.

- Describe space-based communications elements that support the war fighter and how those systems have made support to the war fighter "real-time".

- Explain how space communications systems are a force multiplier for the war fighter

- Explain "network-centric warfare" and how the network improves battlespace awareness.

- Explain technological advances that will impact both the communications environment in both in-garrison and deployed operations.

- Explain current tactics, techniques and procedures affecting operations.

- Explain the implications of AF policy with regards to emerging technology.

- Explain the value of emerging technology and how it enhances the ability to meet mission/war fighter needs.

- Explain that a 33S role is to seek out emerging technologies to enhance mission/war fighter effectiveness.

- Explain Transformational Communications concepts.

33S Communications Officer Career Training Guide

Preface

1. The Career Training Guide (CTG) is used to identify tasks throughout the 33S career field. The tasks identified in the CTG are the result of Occupational Survey Reports, Field Evaluation Questionnaires, Graduate Assessment Surveys and Senior Leader Direction. It supports the 33S duty description outlined in AFMAN 36-2105. It is intended to serve as a guide for all 33S officers on tasks, knowledge and concepts that officers should strive to develop throughout their careers.

2. Initial and advanced training skills are captured in the Course Training Standards (CTS) for the various communications officer courses. While the CTS pulls information from the CTG, the career field's diversity requires additional effort on the part of officers to remain proficient on all aspects of the career field. In the future the CFETP will be updated to reflect basic, senior and master skills and the force development construct.

3. A matrix is provided in the CTG to identify AETC provided training and serves as a cross check to the CTS's. The *Other* column in the matrix serves to identify training sources outside of AETC. The following key is provided:

>   AFIT = Air Force Institute of Technology
>   COM = Commercial Training
>   EXER = Exercise, contingency
>   CBT = Computer Based Training (AFCA)
>   OTR = Officer Tech Refresh Program (AFCA)
>   SEM = Seminar
>   NDU = National Defense University
>   NPS = Naval Postgraduate School
>   DINFOS = Defense Information School
>   IWAC = Information Warfare Applications Course
>   CWPC = Contingency Wartime Planning Course
>   JMIC = Joint Military Intel College
>   C2WS = Command & Control Warrior School
>   DAU = Defense Acquisition University
>   TBD = To Be Determined

4. Users are responsible for annotating technical references to identify current references pending CTG revision. Locate current Air Force publications at http://www.e-publishing.af.mil/, AFSSIs at https://www.afca.scott.af.mil/ip/ or in AFIND 5, DISA Circulars and Instructions at http://www.disa.mil/pubs/pubs01.html, and Technical Orders (TO) at https://toindex-s.robins.af.mil/toindex.

1. 33SX COMMUNICATIONS OFFICER SPECIALTY Training Reference (TR): DODI 4360.8, CJCSI 6212.01, AFI 21-404, 36-2105; AFPD 33-1, 37-1; AFMAN 37-104; CFETP 33SX
1.1 State facts about the communications total force
1.1.1. State facts regarding the progression within this Air Force Specialty Code (AFSC)
1.1.2. State facts regarding this Air Force Specialty Code (AFSC): Duties, Responsibilities and Qualifications
1.1.3. State facts regarding enlisted communications AFSCs (e.g. 2E, 3C, 3A, 3V, 8M): Duties and Responsibilities
1.1.4. State facts regarding civilian communications Civilians Occupational Series: Duties and Responsibilities
1.1.5. Identify Organizational Relationships, Roles and Missions for AF/IL, AF/XI, and AF/CIO
1.1.6. State facts regarding AFRC and ANG communications Personnel including Roles and Missions
1.1.7. Explain Aerospace Expeditionary Force (AEF) Core Concept, exercise and training programs
1.2. Supervision TR:36-2201, 36-2101 V3&6
1.2.1. Brief newly Assigned Personnel on: Safety, Mission, Responsibilities
1.2.2. Interpret for Subordinates: Policies, Directives and Procedures
1.2.3. Plan and Schedule: Work assignments, Shifts and Priorities
1.2.4. Operating Instructions (OI): Prepare, Issue and Review
1.3. Operational Risk Management (ORM) TR: AFIs 91-301, 91-302, AFOSH STDS 91.50, 91.64
1.3.1. Identify hazards of AFS
1.3.2. Identify AFOSH Standards applicable to associated communications AFSCs
2. COMMUNICATIONS ADMINISTRATION TR: AFIs 33-101, 33-103, 33-104, 33-107V3, 33-112, 33-113, 33-114, 33-116; AFMANs 171-100 (Vol 1, 2, 6) AND 37-139
2.1. State facts regarding the following Publications: Air Force Manuals (AFMAN), Air Force Policy Directives (AFPD), Air Force Instructions (AFI), Air Force Pamphlets (AFPAM), Joint Army Navy Air Force Pubs (JANAP), Allied Communications Publications (ACP), Operating Instructions (OI), Commercial/Vendor publications, DISA Publications, Technical Orders (TO), Military Standards (MIL STD), Military Handbooks
2.2. Understand Enterprise Information Management
2.2.1. Elements of Publications Management Program
2.2.2. Structure of Publications
2.2.3. Electronic Publishing
2.2.4. Publications Numbering Process
2.2.5. Publications Libraries (web & CD)
2.2.6. Publications Maintenance
2.3. Understand Supply Functions
2.4. Understand Electronic Business Processes:
2.4.1. Explain office records management TR: AFI 33-119, 33-129; AFH 33-337; 33-322, 37-123, 37-138 Electronic mail (E-mail) Management, Transmitting information via the Internet, Web Page management/implementation
2.4.2. Records Management: Official Record, functions of RIMS
2.4.2.1. Electronic Records Management
2.4.2.2. Tables and Rules
2.4.3. Electronic Transactions Systems
2.4.3.1. Element of Distribution Program
2.4.3.2. Types of Distribution
2.4.3.3. Responsibilities of Organizational Account Representative
2.4.4. Know Freedom of Information Act (FOIA) Program and Purpose TR: DOD 5400.7/AF Sup and US code 552b
2.4.5. Know Privacy Act (PA) Program and Purpose TR: DOD 5400.11-R, AFI 33-332, US code 552a
2.4.6. State facts pertaining to Administrative Communications Program, Paperwork Reduction Act, Federal Records Act
2.5. Official Memorandums
2.5.1. Electronic Messages
2.5.2. Other Written Communications
2.5.3. Address Indicating Group (AIG)
2.5.4. Defense Message System Mail List

2.6. Official Mail Center Management
2.6.1. Understand Base Information Transfer System (BITS) TR: AFI 37-161
2.7. Forms Management
2.7.1. Elements of Forms Management
2.7.2. Categories of Forms
2.8. Documentation Management
2.8.1. Understand Document Security
2.8.2. Security Classifications
2.8.3.   Security Classification Designations
2.8.4. Classified/Accountable Material and Mail Management
2.9. Documentation Management
2.10. Collaboration Tools
2.11. Workflow
2.12. Content Management
3. COMMUNICATIONS PLANNING TR: AFIs 21-404, 33-102, 33-104, 16-501, 16-501; AFPDS 10-4, 33-1, AND 16-5; AFMAN 10-401, 10-501, 10-601, 33-107V3
3.1. Define communications planning process/architecture
3.1.1. Understand Joint Technical Architecture (JTA)
3.1.2. Understand Joint Technical Architecture Air Force (JTA-AF)
3.2. Base Level CIO Functions
3.3. Understand Stem Function/Concepts: Stem A, B and C roles and responsibilities
3.4. Base communications blueprints: purpose and process
3.5. Know communications Installation Records Purpose and Content TR: AFPD 33-1, AFIS 33-104, 21-404
3.6. Base Civil Engineer (BCE) Interface TR AFPD 32-90, AFIs 32-1021, 32-1031, 32-9002, 33-104
3.6.1. Know unit focal point responsibilities
3.6.2. Know BCE work request processing
3.7. Identify Environmental Impacts
3.8. Plans Evaluation AFPDs 10-4, 10-5, 25-1; AFMAN 10-401; AFIs 10-402, 10-403, 10-404, 10-501, 25-101, 33-104, 10-201, 37-101: , ,
3.8.1. Understand Types of Plans, Purpose, Content
3.8.2. Develop Plans Annex
3.8.3. Evaluate Plans
3.9. Communications Project Management TR: AFPDs 33-1, 32-90; AFIs 21-116, 32-1021, 32-1022, 32-1023, 32-1031, 32-1032, 33-101, 33-102, 33-103, 33-104, 10-501, 10-602, 32-9005, 65-106; AFH 32-1084
3.9.1. Understand Organizational Requirements Process: Site Surveys, Project Support Agreement (PSA) processing, Logistic Support Actions
3.9.2. Understand the Design Review Process
4. COMMUNICATIONS REQUIREMENTS TR: AFPDs 10-6, 33-1; AFIs 33-103, 33-104, 10-601, AFPDs 10-6 and 33-1
4.1. Define requirement process
4.2. Identify communications Documentation, Requirements and Process
4.3. Identify provisions for logistics and sustainment support
4.4. Prepare special requirements TR: AFPD AFI 10-414, 33-17
4.4.1. Prepare request for Combat Communications support
4.4.2. Prepare circuit requests TR: DISAC 310-130-1, 310-65-1; AFI 43-116, 33-111; AFPD 33-1: Request for Services (RFS), Completion report, Connection approval and Host nation approval
4.4.3. Prepare request for Engineering and Installation support
4.4.4. Prepare Satellite Access Request
5. SYSTEMS ENGINEERING AND MANGEMENT TR: AFM 170-100V1, 33-105; AFIs 33-101, 33-110, N=MIL-STD 498
5.1. Understand Life cycle Management, Requirements Definition, Configuration Management and Configuration Control
6. RESOURCE MANAGEMENT TR: AFPDs 16-5, 33-1, 10-6, 65-6; AFIs 16-501, 33-103, 33-104, 10-601, 65-601

6.1. Understand Program Objective Memorandum (POM) Cycle
6.2. Understand Funded Requirements, Unfunded Requirements, Funding Types, Primary and Alternate Sources and Financial Planning (FINPLAN)
6.3. Understand Manpower and Organization TR: AFPD 38-2, AFI 38-101, 38-201
6.3.1. Describe communications squadron organizational structure and purpose: manpower requirements, Air Force Manpower Standard (AFMS), Unit Manpower Document (UMD), Authorization Change Request (ACR) and Program Element Code (PEC)
7. CONTRACT and ACQUISTION MANAGEMENT TR: OMB Circular A139, AFIs 64-102, 63-124, 33-104: AFPDs 64-1; Federal Acquisition Regulation (FAR) and Federal Information Resource Management Regulation (FIRMR) at http://farsite.hill.af.mil/
7.1. Understand types of contracts and concepts
7.2. Understand the roles and responsibilities of contract administration: Contracting office, Functional area chief, Quality assurance personnel, Unit contract monitor and Contract Development
7.3. Understand Project documentation (i.e. statement of work (SOW), Communications Service Requirement Documents (CSRD), mission needs statement (MNS), etc.)
7.3.4. Understand Competitive Sourcing
7.3.4.1. Understand Clinger Cohen Act
7.3.4.2. Understand Total Cost of Ownership and IT Portfolio Management
7.5. Understand Acquisition Overview TR: DoD 5000.1, -2
7.6. Understand Information Technology Acquisition Certification
8 EXECUTIVE OFFICER
8.1. Understand and/or develop a process for the following:
8.1.1. Schedule
8.1.2. Suspenses
8.1.3. Travel/Trip books
8.1.4. Work Habits
8.1.5. Meetings
8.1.6. Protocol and Special events
8.1.7. Correspondence (incoming & Outgoing)
8.1.8. Policies
8.1.9. Quick Reference Book
8.1.10. Technical Issues
8.1.11. Staff Car
9. COMMUNICATIONS, COMMAND, CONTROL, COMPUTER AND INFORMATION (C4I) SECURITY TR: ACP 122; AFDIR 33-303; AFKAG-1; AFMAN 33-325 & 326; AFIs 10-1101, 31-101, 31-401, 33-103, 33-104, 33-110, 33-116, 33-202, 33-204, 33-207, 33-211, 33-212, 33-332, AFSSIs 4005, 4006; DISAC 310-90-1; DOD 5200.1-R
9.1. Know Operations Security (OPSEC)
9.2. Understand Information Assurance/Security: Classifications (Privacy Act, For Official Use Only (FOUO), Defensive In-depth TR: CJCSM 6510.01 enclosure b, Essential Elements Friendly Information (EEFIs)
9.2.1. Understand System Accreditation, Certificate to Operate and Certificates of Networthiness
9.2.2. Understand the roles and Responsibilities of the Designated Approval Authority
9.3. Know Communications Security (COMSEC)
9.4. Know Computer Security (COMPUSEC)
9.5. Know Physical security: Industrial Security (Restricted areas, Controlled areas, Access Requirements)
9.6. Understand communications Support Under Different Threatcons and Infocons
9.7. Understand Base Information Protection
10. NETWORK OPERATIONS AND MANAGEMENT TRs AFI 33-108, 33-112, 33-113, 33-115, 33-207
10.1. Know Organization, Roles and Missions of Network Control Center (NCC)
10.1.1 Understand Help Desk roles and responsibilities
10.1.2 Specific Area Support (MED, OPS)
10.1.3. Understand Functional System Administrators and Workgroup Managers Roles and Responsibilities
10.1.4. Understand Software Licensing
10.1.5. Understand Webpage Management/ Implementation

10.1.6. Understand ADPE Accountability
10.2. Know Organization, Roles and Missions of Network Operations and Security Center (NOSC)
10.2.1. Know Roles of NOSC Crew Chief
10.2.2. Understand Network Certification and Networthiness
10.3. Know Organization, Roles and Missions of AF Network Operations Center (AFNOC)
10.4. Know Organization, Roles and Missions of AF Computer Emergency Response Team (AFCERT)
10.5. Know Organization, Roles and Missions of Defense Information Systems Agency (DISA)
11. COMMUNICATIONS TECHNOLOGY FUNDAMENTALS TR: AFI s 33-101, 33-106, 33-111, 33-114, 33-115(Vol 1&2), 33-117, 33-129; AFDIR 33-303
11.1. Understand Systems Concepts: Storage, Man Machine Interface, Network Infrastructure, Enterprise Architecture
11.1.1. Understand Computer Concepts and Components
11.2. Identify Protocols, Standards and Organizations
11.3. Understand Communications Concepts: Transmission Media, Signals, Cabling
11.3.1. Identify Communication Signals
11.3.2. Understand Radio Concepts
11.3.3. Understand Telephone Concepts
11.3.4. Understand Radar Concepts
11.3.5. Understand Satellite Concepts
11.3.6. Understand Multiplexers
11.3.7. Understand Bandwidth
11.4.   Understand COMSEC Devices: Alarm and Fault Indicator Systems, Red-Black Concept
11.5.   Understand electronic principles: Alternating current, Direct Current, Conductivity, Insulation, Voltage, Amperage, Flow, Resistance, Capacitance, Frequency TR: AFI 36-2233; TO 31-1-141 series
11.62.8. Understand modulation and multiplexing techniques and schemes TR: TR: DISAC 310-70-1 TOS 31-1-141 SERIES AND 31Z-10-20, MIL-STDS 188-311, 188-100 AND 188-318
11.7. Identify Signal Characteristics TR: MIL-STD 188-347 **(**Synchronous, Isochroous, Asynchronous, Types of Codes, Signal Rate, Bit count integrity)
11.8. State Facts of Transmission Media TR: 31-1-141 series: (copper cable, fiber optic, satellite, wireless)
11.9. Understand Interoperability
11.10. Understand Concept of Decision Quality Information
12. Communications Networking
12.1. Understand Systems Concepts: Network Infrastructure, Open Systems Interconnect (OSI) Reference model
12.2. Understand Network Management Tools
12.3. Understand Routers
12.4. Understand Switches
12.5. Understand Servers
12.6. Understand Directory Services
12.7. Understand Wide Area Network Technologies
13. SYSTEMS CONTROL AND MANAGEMENT TR: DISACS 310-50-6, 310-55-1, 310-70-1, 800-55-1, 800-55-3, 800-70-1, AND 310-50-5; MIL-STD 188-154, 2045-38000, AND RADC-TR-90-247, (VOL I)
13.1. Understand Long Haul Communication concepts and structure
13.2. Understand Tech Control Operations, Equipment, Requirements,
13.3. Understand Systems Management TR: AFI 33-101, 33-112, DISACs 300-85, -1, 310-70-1 (Vol I), & 310-130-2
14. MISSION SYSTEMS
14.1. Understand Maintenance Management Processes (TR: AFI21-116)
14.1.1. Maintenance Definition and Scope
14.1.2. Maintenance Management Philosophy/ Maintenance Management Core Processes
14.1.3. Equipment Readiness
14.1.4. Maintenance Planning and Control
14.1.5. Maintenance Information Systems
14.1.6. Standardization and Evaluation Program
14.2. Understand Sustainment of Communication Systems at Base Level

14.2.1. Understand Air Traffic Control and Landing Systems (ATCALS)
14.2.2. Understand METNAV
14.2.3. Understand Weather Systems
14.2.4. Understand Personal Wireless Communications Systems (PWCS) (Cell Phone and Land Mobile Radios (LMR), Wireless LAN)
14.2.5. Understand Command and Control (C2) Systems
14.2.6. Encryption and Decryption Devices
15. VISUAL INFORMATION (VI) MANAGEMENT
15.1. Understand VI Policies and Procedures AFI 33-117
15.2. Understand VI Capabilities and Limitations
15.3. Understand Combat Camera Roles and Responsibilities TR: DODD 5040.2, 5100.73, AFI 33-132
15.4. Understand Legal Constraints
15.5. Explain Video Teleconferencing (VTC)
16. POSTAL OPERATIONS, MANAGEMENT AND DOCUMENTATION
16.1. Understand Postal Operations, Management and Documentation TR: DoD 4525.6-M, DoD 4525.8-M, USPS Publication 38
17. FREQUENCY AND SPECTRUM MANAGEMENT TR: International Telecommunications Union and Radio Regulations, AFI 33-118, AFMAN 33-120, NTIA Manual, MCEB Publication
17.1. Understand Regulation of Frequency and Spectrum Management
17.2. Understand Diplomatic Clearances
17.3. Understand the process of acquiring Host Nation Frequency Approval
18. COMMUNICATIONS AEF/DEPLOYMENT CONCEPTS JANAPs 120, 201, ACPs 117, 121, 122, 131, DCAC 310-D70-30; AFIs10-201, 10-400, 10-402, 10-403, 10-201, 38-205, 33-112, 33-113:AFMAN 10-401 (Vol 1), 10-417
18.1. Initial Comm Support Concepts, Deployed Command and Control Communications Components (including Combat and Joint Air Operation Centers (CAOC and JAOC)), configurations and supporting organizations
18.2. Understand Sustained Communication Support Concept, Concepts and Strategies
18.3. Understand mobility processes: War Mobilization Planning, Unit type codes (UTC), Design Operational Capability (DOC) Statement, Status of Resources and Training System (SORTS)
18.4. Unit Deployment Manager (UDM) Responsibilities: manning documents match deployment documents, personnel readiness, personnel training, equipment readiness, and logistic support management
18.5. Describe the following systems: TDC, GCSS
18.6. Sensor-to-shooter systems
19. SPACE COMMUNICATIONS
19.1. State fundamentals facts concerning frequencies, orbits, constellations, data rates, coverage
19.2. Understand Satellite communications systems
19.3. Understand Earth Stations, Teleports, Terminals Link to DISN
19.4. Understand Transponder vs Processed systems
19.5. Understand availability/augmentation of commercial satellite section
19.6. Understand how Space Command provides force multiplier for warfighter
19.7. Understand integration of manned, unmanned, and space systems for command and control, communications and computers, and intelligence, surveillance, and reconnaissance (C4ISR)
19.8. Understand mission of Air Force Space Battlelabs
19.9. Understand Space-Based Communications
19.10. Understand Operations in the Electromagnetic Battlespace
19.11. Understand Space-Based Navigation
19.12. Understand Transformational Communications
19.13. Understand Satellite Access Request (SAR)
19.14. Understand Satellite Control Network
19.15. Understand Satellite Lift Bodies
20. AIR OPERATIONS CENTER
20.1. Understand C4I Organizations, Systems and Networks supporting Air Operations
20.2. Understand the role of JFACC/CFACC
20.3. Understand the role of J6/C6

20.4. Understand the role of JICO
20.5. Describe COP
20.6.   Operationalize the Roles and Capabilities of the AOC and Supporting ACOMS
20.7. Understand Theater Air Ground Systems
20.8. Understand Data Link Structure
20.9. Deploy to any contingency operations and/or complete an AOC tour
20.10. Participate in a large scale exercise such as Blue Flag, Roving Sands, or Joint Task Force Exercise (JTFEX).
21. WARFIGHTING INTEGRATION
21.1. Understand Command and Control (C2) systems
21.2. Understand Global Command & Control System
21.3. Understand Global Combat Support System
21.4. Understand Information Operations
21.5. Understand Bandwidth management
21.6. Understand the communications role in Global Strike Task Force (GSTF) and network centric warfare
21.7. Describe the F2T2EA Process
21.8. Understand how communications professionals can leverage IT to develop interoperable joint C4ISR
21.9. Understand Concept of Management & Coord of Mobile IP's
21.10. Understand SATCOM Management
21.11. Understand Airborne Communications
21.12. Understand Concept of Reachback
22. EXPLAIN NEW AND EMERGING SYSTEMS AND TECHNOLOGIES
221.1. Crypto modernization
22.2. Wireless security
22.3. Dynamic use of spectrum/ bandwidth
22.4. Converging voice & data to a single network
22.5. Self aware, defending, healing networks

PART II SECTION B

TRAINING COURSE INDEX

Part II

Section B - Training Course Index

1. **Purpose.** This section of the CFETP identifies training courses available for continuing/ supplemental training. For information on all formal courses, refer to the Air Force Education and Training Course Announcements (ETCA) database, formerly AFCAT 36-2223, *USAF Formal Schools Catalog.*

2. **Air Force Communications Officer Courses.**

Course Number	Course Title	Location
E6OGU33S1-000	Communications Officer Fundamentals Exportable (COFE) Course	Keesler
E3OBR33S1-011	EAF Communications Officer Training (ECOT) Course	Keesler
E3OBR33S1A-006	Communications Officer Engineering Course	Keesler
E3OZR33S3-001	Communications Officer Information Operations Education Course	Keesler
E3OZR33S3-003	Deployable /Tactical Communications Course	Keesler
E3OZR33S3-004	Enterprise Network Operations Management Course	Keesler
E3OZR33S3-005	Communications Officer Network Training Course	Keesler
E3OZR33S3-006	Executive Officer Education Course	Keesler
E3OZR33S3-000	Warfighting Integration Course	Keesler
E3OCR33S4-000	Communications Battlespace Management Course (CBMC)	Keesler

3. The Air Force Institute for Advanced Distributed Learning (AFIADL) was established in 2000 to exemplify recognition of the importance of distance learning and advanced distributed education and offers numerous distance learning courses. AFIADL accomplishes their role of providing force performance support capabilities to warfighters through the Extension Course Program, the Air Technology Network, and the ADL Consulting service.

4. **Exportable Courses.**

For a current list of the available CBT courses refer to http://afcbt.den.disa.mil.

5. **Additional Training Courses and Resources.**

5.1. This section identifies training programs currently available for communications officers to further their knowledge of the career field. Professional Continuing Education (PCE) and technical refresher training are additional education and training options, either in residence, or through exportable courses and on-the-job training. This training is available to personnel to increase their skills and knowledge beyond the minimum required. For further information on available training check the 2EXXX, 3AXXX, 3CXXX, 3VXXX and 33S professional development websites.

5.2. The Air Force Institute of Technology (AFIT) located at Wright-Patterson AFB, OH, offers numerous communications related courses. Graduate programs include the Information Resource Management, Computer Engineering, Information Systems Management, Electrical Engineering and Computer Systems. These are in-residence courses requiring a PCS move.

5.3. The AFIT School of Systems and Logistics Distance Learning Directorate offers courses on acquisition, software and systems engineering, test and evaluation, logistics and financial management. These courses are offered through a mix of in residence, on-site and distance learning modes. The software engineering courses are collectively known as the Software Professional Development Program (SPDP). The objective of the program is to provide continuing education for USAF members involved in any aspect of software engineering, including acquisition, writing or modification of software. Specific

topics include software program management, software requirements and design, object-oriented analysis and design, software creation and maintenance, and software testing.

5.4.   The National Defense University's Information Resource Management College (IRMC) offers leading-edge training in information resource management for lieutenant colonels (and civilian equivalent) and above. Applications for the course meet a selection board. Several courses, seminars, symposia and workshops are offered with differing lengths from 3 days to14 weeks.

5.5.   The USAF Special Operations School (USAFSOS) sponsors a variety of courses furthering operational knowledge. USAFSOS is part of the Joint Special Operations University (JSOU) at Hurlburt Field, FL. JSOU educates Special Operations Forces (SOF) executive, senior and intermediate leaders and selected other national and international security decision-makers, both military and civilian, through teaching, research, and outreach in the science and art of Joint Special Operations.

5.6.   The Air Force Communications Agency at Scott AFB, IL, offers the following 5-day seminars for Air Force officers, senior NCOs and DAF civilians (GS-09 and above) that are performing duties or about to assume duties (within 90 days) where they are responsible for the operation of base-level communications functions:

>   5.6.1. Information Management
>   5.6.2. Information Protection
>   5.6.3. Maintenance Management
>   5.6.4. Information Systems Management
>   5.6.5. Network Management
>   5.6.6. Planning and Implementation Management
>   5.6.7. Planning and Implementation Project Planning

5.7.   Naval Postgraduate School (NPS). The Navy has developed a unique academic institution whose emphasis is on education and research programs that are relevant to the Navy, defense and national and international security interests. NPS provides a continuum of learning opportunities, including graduate degree programs, continuous learning opportunities, refresher and transition education.

5.8.   The Defense Information School (DINFOS) at Ft Meade, MD, offers the Base Visual Information Manager course and is open to 33S company grade officers.

5.9.   The Officer Technical Refresh (OTR) program is sponsored by AFCA to augment initial and advanced communications training and fill the existing training gaps between basic skill development and capstone. The key to this initiative is a regional training approach that minimizes the effects of two major obstacles in obtaining training--time and money. The program funds commercially available training and brings it to regional sites. Courses range from one (Exec-level) to five days (hands-on).

5.10. The Information Warfare Applications Course (IWAC) at Maxwell AFB, AL, educates students in the fundamentals of Air Force information operations doctrine and provides students insight into how the doctrine may be applied across the spectrum.

5.11. The Engineering Installations Lightning Force Academy at Fort Indiantown Gap, PA, provides formal classroom training to acquaint communication systems project engineers and newly assigned engineers with the various intricacies and communications disciplines they will confront within their real world workload.

5.12. The Contingency Wartime Planning Course (CWPC) at Maxwell AFB, AL supports war fighting Commanders with quality Air Force Planners by providing the best foundation of knowledge in joint and Air Force contingency and deliberate planning processes and systems. The CWPC curriculum is contained in three blocks: Foundations for Planning, Systems and Planning.

5.13. The Defense Acquisition University (DAU) provides mandatory, assignment-specific, and continuing education courses for military and civilian acquisition personnel within the Department of Defense. Its mission is to provide the acquisition community with the right learning products and services to make smart business decisions. The DAU coordinates acquisition education and training programs to meet the training requirements of more than 140,000 DoD acquisition personnel. As the DoD corporate university for acquisition education, the DAU sponsors curriculum and instructor training to provide a full range of basic, intermediate, advanced, and assignment-specific courses to support the career goals and professional development of the Acquisition Workforce. In addition to providing curriculum-based training, both in the classroom and via the Internet, the DAU fosters professional development through publications, symposia, research, and consulting in areas related to the acquisition functions.

5.14. The Joint Military Intelligence College (JMIC) is an accredited education and research institution serving the United States Intelligence Community by preparing personnel for senior positions in the U.S. Armed Forces and the national security structure. The College offers degree and certificate programs in intelligence at the graduate and undergraduate level. Since 1963, over 80,000 military and civilian students have completed courses or participated in the College's varied academic programs. The College, located at Bolling AFB in Washington, DC, currently is authorized by Congress to award the Bachelor of Science in Intelligence (BSI) and the Master of Science of Strategic Intelligence (MSSI) degrees. The College is accredited by the Commission on Higher Education of the Middle States Association of Colleges & Schools.

5.15. The Command and Control Warrior School (C2WS), part of the Command and Control Training and Innovation Group (C2TIG) at Hurlburt Field, FL, instructs joint service personnel on doctrinal procedures for Air Operations Center (AOC) training. Emphasizing real-world plans and procedures, the C2WS is the executive agent for Contingency Theater Automated Planning System (CTAPS) and Air Tasking Order (ATO) training. Graduating more than 1,800 warfighters annually, the C2WS provides a seven-course curriculum using advanced computer systems and distributed technology, and conducts training for all ranks, from junior airmen to senior general officers. Instruction includes aerospace doctrine and relationship to the command, control and employment of aerospace forces; airspace control as it affects the employment of combat aircraft weapons systems; and operational planning considerations for air operations C2.

5.16. Eagle Flag. Eagle Flag replaced Air Mobility Command's Phoenix Readiness combat training. The course objective is to apply critical skills to organize forces, open and establish a bare base able to support/ sustain mission generation forces. This 1-week field training exercise encompasses pre-deployment spin-up, deployment, employment, and post-exercise.

6. Professional Societies.

6.1. Armed Forces Communications and Electronics Association (AFCEA). The following are some of the courses available through AFCEA:

- Command, Control, and Communications
- DOD Acquisition for Government and Industry Managers and Engineers
- C4ISR Architecture Framework Implementation
- Data Management Systems
- Digital Data Communications and Emerging Technologies
- Global Command and Control System
- Military Satellite Communications

6.2. The Institute of Electrical and Electronics Engineers (IEEE) is a non-profit, technical professional association of more than 380,000 individual members in 150 countries. Through its members, the IEEE is a leading authority in technical areas ranging from computer engineering, biomedical technology and telecommunications, to electric power, aerospace and consumer electronics, among others. Through its

technical publishing, conferences and consensus-based standards activities, the IEEE produces 30 percent of the world's published literature in electrical engineering, computers and control technology, holds annually more than 300 major conferences, and has nearly 900 active standards with 700 under development.

7. Other Courses:

7.1. The Acquisition Professional Development Program (APDP) offers the opportunity to become certified in communications-computer acquisition.

7.2. The Association for Computing Machinery (ACM) offers an extensive listing of practical courses.

PART II SECTION C

SUPPORT MATERIALS

PART II SECTION D

MAJCOM UNIQUE REQUIREMENTS

Section C - Support Materials

There are currently no support material requirements. This area is reserved.

Section D - MAJCOM Unique Requirements

There are currently no MAJCOM unique requirements. This area is reserved.

PART II SECTION E
ADDITIONAL INFORMATION

Section E - Additional Information

1. **Suggested Reading.** This section contains references and a professional reading list for communications officers. It is not all-inclusive; however, it covers the most frequently referenced areas. The selections contained in this list cover a wide variety of subjects ranging from Air Force classification instructions to the Chief of Staff of the Air Force reading list. Familiarity with the guidance and information contained in these publications will assist in the development of knowledge in communications officers. For a current list of the available AFIs refer to http://www.e-publishing.af.mil/.

AFDCH 10-02, *Air & Space Commander's Handbook for the COMAFFOR.*

AFDD 2-5, *Air Force Doctrine Document - Information Operations*

AFI 10-401, *Base Support And Expeditionary Site Planning.* Provides for the preparation of base support plans, expeditionary site plans and the accomplishment of contingency site surveys across the spectrum of USAF operations for deliberate and crisis action planning and execution and describes specific requirements to translate and integrate operational requirements into Agile Combat Support and Expeditionary Combat Support (ACS/ECS) at employment sites to create and sustain operations.

AFI 36-2105, *Officer Classification*. Describes the various officer specialties, the coding system used to differentiate them and the knowledge, education, training and experience requirements of each specialty.

AFI 36-2108*, Enlisted Classification.* Describes the various enlisted specialties, the coding system used to differentiate them and the knowledge, education, training and experience requirements of each specialty.

AFI 36-2110*, Assignments*. Contains the policies and prescribes the procedures for moving officers between organizations, bases and commands. It also provides information on assignment limitations, tour lengths and various waivers.

AFI 36-2201, *Air Force Training Program Career Field Education and Training*. Outlines career field management responsibilities, utilization and training workshop procedures, and construction and publishing of CFETP's.

AFCAT 36-2223, *US Air Force Formal Schools*. Contains course descriptions for the various training courses available and the procedures for obtaining the training. This document lists everything from technical training to formal professional military education.

AFI 36-2406, *Officer and Enlisted Evaluation Systems*. Assists raters and ratees in giving and receiving performance feedback and in preparing officer performance reports and promotion recommendation forms.

AFI 36-2501, *Promotion of Active Duty List Officers*. States the actual procedures for promoting active duty officers below the grade of brigadier general. This document explains how the Air Force conducts selection boards and makes promotion selections.

AFPAM 36-2611*, Officer Professional Development Guide*. Provides general information on professional development common to all officers. It provides an excellent means for organizing your professional development notes and references.

AFI 36-2923, Aeronautical, Duty and Occupational Badges. Lists criteria for wear of the Basic, Senior and Master Communications functional specialty badges.

AFI 36-3401, *Air Force Mentoring.* Provides guidance on how to carry out Air Force Mentoring, which was established to bring about a cultural change in the way we view professional development.

Air Force Civilian Career Programs Training and Development Guide. Distributed annually to Civilian Personnel Offices. Lists approved training, PME and executive development courses for members of the AF Civilian Careers Program.

Career Field Education and Training Plans (CFETP) for specialties within the 2EXXX, 3AXXX, 3CXXX and 3VXXX enlisted career fields*.* These plans provide guidance for the planning, development, and life cycle training requirements for airmen within these communications specialties. It identifies mandatory skills airmen should obtain during their careers as communication professionals.

[***Chief of Staff Suggested Reading List***](.)*.* The Chief of Staff reading list is a single list of Chief of Staff recommended reading for enlisted, officer and civilian members and it's appropriate for Air Force members of all grades to pursue it, as their time permits. The list is subject to periodic renewal in order to remain relevant to our constantly changing times and challenges. Accordingly, this is a dynamic list and is will contain additions and substitutions from time to time. Books on the list are available through Air University and the History Office.

[***Communications 33S Officer Website***](.)*. AFCA hosts the 33S officer website highlighting information concerning communications functional manager initiatives. It includes training, education and professional development and other career field information. Also included is a discussion board where communications professionals can share information and resolve issues.*

Newton's Telecommunications Dictionary. Defines over 21,000 telecommunications terms and explains complex technology in non-technical business language.

[***Senior Leader Biographies***](.)*.* Reading senior leader biographies is the first step in becoming acquainted with senior leadership and their career paths. Of note is that although there are some commonalities in their career paths, no two senior leaders rose to their position following the same path.

2. URL Reference List. This section contains URL references used throughout this document.

Accession of Air Force Military Personnel AFPD 36-20
http://www.e-publishing.af.mil/pubfiles/af/36/afpd36-20/afpd36-20.pdf

Acquisition Professional Development Program
http://www.safaq.hq.af.mil/

Communication Battlespace Management Course (formerly Advanced Communications Officer Training ACOT)
http://wwwmil.keesler.af.mil/ACOT.acot.html

AFPC PME AFIT link
http://afas.afpc.randolph.af.mil/pme/Index-AFIT.htm

AFSC Demographic Information
http://www.afpc.randolph.af.mil/demographics/demograf/CAFSC.html

AFSC 2E Homepage
https://140.185.52.73/ilm/ilmm/cemaint/index.html

AFSC 3A Homepage
https://www.afca.scott.af.mil/imweb/

AFSC 3C Homepage
https://www.afca.scott.af.mil/3c/index.htm

AFSC 3V Homepage
https://www.afca.scott.af.mil/multimedia/

Air and Space Basic Course (ASBC)
http://www.au.af.mil/au/soc/abc/

Air Command and Staff College
http://wwwacsc.maxwell.af.mil/

Air Force Communications Agency (AFCA) Seminars
https://www.afca.scott.af.mil/seminars/

Air Force Communications Officer Professional Development Home Page
https://www.afca.scott.af.mil/33sx/

Air Force Communications Officer Training (AFCOT)
https://wwwmil.keesler.af.mil/333trs_acot/index.htm

Air Force Education and Training Course Announcements (ETCA) database, formerly AFCAT 36-2223, *USAF Formal Schools Catalog*
https://etca.randolph.af.mil/

Air Force Institute for Advanced Distributed Learning (AFIADL)
http://www.maxwell.af.mil/au/afiadl/

Air Force Institute of Technology (AFIT)
http://www.afit.af.mil/

Air Force Intern Program (AFIP)

https://afas.afpc.randolph.af.mil/pme/index-afip%20pages.htm
Air Force On-The-Job Training Products for Communications-Electronics Enlisted Specialty Training AFI 36-2233
http://www.e-publishing.af.mil/pubfiles/af/36/afi36-2233/afi36-2233.pdf

Air War College
http://www.au.af.mil/au/awc/awchome.htm

Armed Forces Communications and Electronics Association
http://www.afcea.org

Association for Computing Machinery
http://www.acm.org/education

Basic Communications Officers Training (BCOT)
http://wwwmil.keesler.af.mil/ACOT/bcot.html

Communications 33S Officer Website
https://www.afca.scott.af.mil/33sx/

Career Field Career Field Education and Training Plan (CFETP)
http://www.e-publishing.af.mil/search.asp?page=1&B1=Go&keyword=CFETP

Chief of Staff Suggested Reading List
http://www.af.mil/lib/csafbook/readinglist.shtml

Command and Control Warrior School
http://www2.acc.af.mil/afc2tig/

Communications Awards Program AFI 36-2845
http://www.e-publishing.af.mil/pubfiles/af/36/afi36-2845/afi36-2845.pdf

Communications Enlisted Career Field Education and Training Plans
http://www.e-publishing.af.mil/pubs/speclist.asp?puborg=AF&series=etp

Computer Based Training
http://usaf.smartforce.com

Contingency Wartime Planners Course
http://www.cadre.maxwell.af.mil/warfarestudies/cwpc/index.htm

Education with Industry
http://ci.afit.edu/CIG/CIGH/cigh.html

Engineering Installations Lightning Force Schoolhouse
http://sites.state.pa.us/PA_Exec/Military_Affairs/air_national/211/index.htm

Enlisted Classification AFMAN 36-2108
http://www.e-publishing.af.mil/pubfiles/af/36/afman36-2108/afman36-2108.pdf

Information Assurance Scholarship Program (IASP)
http://www.c3i.osd.mil/iasp/

Information Warfare Applications Course (IWAC)
http://www.cadre.au.af.mil/warfarestudies/iwac/iwacpage.html

Institute of Electrical and Electronics Engineers
http://www.ieee.org./portal/index.jsp

Joint Military Intelligence College
http://www.dia.mil/Jmic/

Military Education AFPD 36-23
http://www.e-publishing.af.mil/pubfiles/af/36/afpd36-23/afpd36-23.pdf

National Defense University Information Resources Management College
www.ndu.edu/irmc

Naval Postgraduate School (NPS)
http://www.nps.navy.mil/inps/01Academics.htm

Newton's Telecommunications Dictionary
http://www.cmpbooks.com

Officer Classification AFMAN 36-2105
http://www.e-publishing.af.mil/pubfiles/af/36/afman36-2105/afman36-2105.pdf

Officer Professional Development (OPD) AFI 36-2611
http://www.e-publishing.af.mil/pubfiles/af/36/afi36-2611/afi36-2611.pdf

Professional Military Education (PME) AFI 36-2301
http://www.e-publishing.af.mil/pubfiles/af/36/afi36-2301/afi36-2301.pdf

Qualification Training Flight (Q-Flight)
https://wwwmil.keesler.af.mil/81trss/qflight/

Scope Eagle
http://wwwmil.keesler.af.mil/ACOT/se.html

Senior Leader Biographies
http://www.af.mil/lib/bio/

Squadron Officers School
http://www.maxwell.af.mil/au/soc/sos/mission.htm

The Defense Acquisition University (DAU)
 http://www.dau.mil/

USAF Special Operations School (USAFSOS)
https://www.hurlburt.af.mil/milonly/tenantunits/jsou/index.html

USMC Expeditionary Warfare School (EWS)
http://www.mcu.usmc.mil/ews/

Visual Information Enlisted Members at Syracuse University
http://newhouse.syr.edu/academic/military/index.htm

New Acquisition Policy
https://dod5000.dau.mil/

PART II SECTION F
FORCE DEVELOPMENT

PART II

Section F - Force Development

At the writing if this CFETP force development was in it's infancy and existed primarily in the Chiefs Sight Picture. While the CFETP was written with Force Development in mind, the Force Development concept was not mature enough to directly tie together the efforts of the CFETP and the Chief's vision. As Force Development is matured and implemented, the CFETP will be edited to reflect it's current state and better define the connection between the development of communications officers and overall Force Development.

Total Force Development

At CORONA Fall we adopted a new vision for how we work with the most important resource we have, all of you. As we transformed our Cold War structure into an Air and Space Expeditionary Force, it follows that we transition the way we train, educate, promote, and assign our Total Force. We call it Force Development and it applies equally to all of us -- active duty officer and enlisted, reserve components and civilians -- across all specialties in our Air Force, whether at home or in a tent city, on the flightline or the launch pad, in the air or in the lab. Day after day you demonstrate that your expertise is our greatest asset, and I truly believe your continued training and development are our wisest investment. Our goal in implementing our new Force Development construct is to make that investment in all career fields and all ranks more deliberately than we do today in order to better prepare us for the future and better meet your expectations. We have chosen to begin this transformation with the officer corps, but planning is underway and details will be provided on the unique aspects relating to our civilian and enlisted force as well as the reserve components.

Force Development will enable us to focus on each individual by emphasizing our common airman culture while offering a variety of choices that respects the distinctive elements of your career field. We plan to add a dimension to your educational experience that has not been fully exploited in our current PME and advanced education structure. Most importantly, we have made sure that this new emphasis reflects a sincere respect for your time -- time that you owe to other priorities in your life, like your families.

Every aspect of our new plan has one common goal: to continue developing professional airmen who instinctively leverage their respective strengths together. We intend to develop leaders who motivate teams, mentor subordinates, and train successors. I know that a lot of you feel there are many reasons to be discouraged or dissatisfied with our current system -- limited PME in-residence slots, limited advanced degree opportunities, or worse, square-filling master degree programs that do little to make you better at your job or get you closer to your goals. I have experienced some of these issues myself and I hear the same feedback from you. So let's fix it.

Force Development will be executed in three parts -- Officer, Enlisted, and Civilian Leadership Development -- and each will focus on training, education, and experience, especially how you are assigned to get that experience. The development programs are a new concept and are more than just PME. They couple the professional

military education experience with advanced education that will prepare you with the practical knowledge and skills required to be effective in today's expeditionary air and space force and better face the challenges of tomorrow. No longer will the doctor, scientist, engineer, and operator be expected to pursue the same line of advanced degree and PME in order to be promoted. We are creating ISS PME modules of instruction, bodies of knowledge we think all should learn, to allow greater flexibility and access a greater audience. For officers, when you get promoted to major you will be required to take at least the basic module. Additional modules of your ISS PME experience will be matched to your professional needs, making you more competent within your career field and better prepared if you are assigned outside your career field. Where it makes sense, programs will be scheduled around the rotational rhythm of our Air and Space Expeditionary Force, just like everything else we do. Each development program will be designed to ensure that your experience emphasizes a breadth of exposure to the Air Force mission while focusing on the depth of experience you need to be good at your job. Finally, the programs will be prioritized in a manner that respects your valuable time and eliminates "square filling" training and education.

Just like many of you, I spent many hours in night school to earn a master's degree. Why? So I could get promoted. It's not that the time was wasted, but the course of study was not designed to maximize my own development, or to deliver the best return on that investment to the Air Force. And, it took me two years of time shared with my Air Force duties and away from my family. To top it all off, the Air Force viewed my MBA in the same light for promotion as if I had attained a Master's in Quantum Physics from MIT.

We are going to change that. Today, under our new construct, if the Air Force needs you to have an Advanced Academic Degree (AAD), we will send you to get the right one that is useful to you and the Air Force, either as part of PME or AAD. What's more, if you are qualified, we will ensure you will have the opportunity to receive both advanced degree and PME credit. We have spent well over two years developing this construct, and now it is time for action.

This month, some majors who met the ISS in-residence board will be offered enhanced AFIT- funded development opportunities. These majors will be given modular PME and earn advanced academic degrees instead of attending traditional ISS. We intend to open the aperture on what is considered a beneficial education and training experience.

In the future, we will offer qualified individuals, in *all* career fields, advanced degrees in conjunction with tailored PME based on what we know they need for their jobs, period. For example, our best scientists and engineers will have a clear path to a master's degree and a Ph.D. We will include some PME within the advanced degree programs so that they earn credit for each in pursuit of those degrees. Scientists and engineers will be competitive for promotion based on their skills, their advanced technical degrees, and their proven capability to publish and mentor. Pilots will not require an advanced degree in order to be competitive for promotion to lieutenant

colonel. Their promotion will depend on their ability to sustain the highest levels of qualification such as mission lead or instructor pilot. Doctors will be able to remain in clinical practice and be competitive for promotion based on their skills, board certifications, leadership, and mentorship.

In all career fields, to be competitive for command or program leadership, you should attend a resident-level PME program and earn the associated advanced degree. Any resident program should make you highly competitive to command at the squadron level and be significant for command opportunities above the squadron level. We must recognize that the experience of command is as unique as each profession in our Air Force -- potential commanders have different education and training requirements. At the same time, we will make sure that qualified people who do not pursue the command path will not be denied advanced professional development and a rewarding career to retirement.

In all cases there will not be one "set solution" for success. We will examine each individual based on credibility, depth of experience, breadth of exposure, and potential to serve the AF in higher positions of responsibility. Your assignments will be tailored to offer you that breadth once you have proven your depth of experience. For example, if you are a superb officer with proven capability as an operator, your post-educational development assignment may be to an acquisition-related job. You will benefit from a new perspective and the acquisition community will benefit from the operator's insight. In our Force Development construct, part of your education will include adequate preparation for that acquisition assignment -- gone are the days where you are thrust into a "broadening" opportunity and left to figure it out by yourself. The leverage we will gain by breaking the old molds for training, education, and experience will be a tremendous asset to the Air Force and will also better enable you to grow and succeed professionally.

It's time for a new way of thinking. However, I realize that there is a zero percent chance that we have this one hundred percent correct. I know the cornerstone to any education, training, and experience program is you -- your involvement will mark the success of our vision. And the key to a successful plan is to keep it simple. Over the next six months we will be redesigning the way we do business in our Air Force Personnel Center. We will transition assignment officers into teams that will think in terms of developing you, rather than simply "assigning" you. At the same time education teams at AETC and AU will be designing new ISS "modules" in preparation for our next class in the summer of '03. All the while our personnel, or "Force Development" community, will continue to design the necessary changes to things like the Officer Career Briefs, and developing new ways to simplify communication between you and those on the development teams. In short, all the required changes will be implemented to assure our Force Development construct is fully operational by the end of next year.

So, get smart on the plan as it develops and give me your feedback. There is one more thing to keep in mind: each of us who makes the Air Force a career is obliged to invest some part of that career in training or educating the airmen who will take our place

-- that's what makes us better. We are building Force Development one step at a time -- I need your direct involvement and feedback to make it work.

As always, I am incredibly proud of all that each and every one of you does for the Air Force and the United States of America. You are why we are the best Air Force on the planet!